

XXVIII.—On the Columbidae of the Ethiopian Region.

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GREAT confusion has arisen in the nomenclature of the African species of this family. I have no new names to propose; but I trust, by arranging the older ones in their proper places, to establish better order amongst the African members; and if I succeed in doing this I shall attain the object of my present endeavours.

Within my range I shall include Palestine and the islands surrounding Africa, such as Socotra, the Seychelles, Madagascar, and those extending as far eastward as Rodriguez; as also St. Helena, the Canary Islands, Madeira, and the Azores. These latter islands, together with the shores of the Mediterranean and Palestine, really belong to the Western Palearctic Region, and I shall thus include six species (*Columba ænas*, *Palumbus palumbus*, *P. trocaz*, *P. bollii*, *P. laurivorus*, and *Turtur risorius*) which are not, properly speaking, members of the Ethiopian Region.

The order Columbæ I shall divide into two families:—

1. *Columbidae*. The true Pigeons, with wings adapted for flight.
2. *Dididae*. The Dodos, with wings obsolete, not adapted for flight.

The latter family I shall rapidly pass over, its representatives being now extinct.

Of the family Columbidae there are likewise two extinct Ethiopian species: one, *Columba rodericana*, Milne-Edwards, is only known by a few bones. It was a native of Rodriguez, and probably belonged to the genus *Alectrænas*; but I shall not treat further of it here. The other (more recently) extinct form is *Alectrænas nitidissima*, of Mauritius, which I shall give a place to amongst the existing species.

The family Columbidae I shall divide into two subfamilies, to be distinguished by the number of their tail-feathers:—

1. Subfamily Treroninæ, with 14 tail-feathers, contains two genera, *Alectrænas* and *Treron*.

2. Subfamily Columbinæ, with 12 tail-feathers, contains *Columba*, *Palumbus*, *Turtur*, *Turturæna*, *Haplopelia*, *Chalcopelia*, *Tympanistria*, *Æna*, and *Geopelia*. The latter genus only comes within my range as an introduced bird on some of the islands bordering Africa to the south of the equator.

In all the members of this family the sexes are similar in plumage, with the exception of *Turturæna delegorguei* and *Æna capensis*.

Subfam. I. TRERONINÆ.

Tail of 14 feathers; tarsus more or less feathered.

- a. Entire tarsus feathered all round; feathers of the neck lengthened, and of a loose, rather hair-like texture; body and wings indigo-blue; the inner web of the first primary more or less indented; the third primary entire 1. *Alectrænas*.
- b. Tarsus only feathered in front for about half its length; feathers of the neck ordinary; general colouring olive; the first primary entire, the third generally indented on the inner web (but this is not a very reliable character, for in *T. delalandii* I met with it in eight specimens, while in two others the third primary was entire) 2. *Treron*.

1. ALECTRÆNAS.

- Alectrænas*, Gray, List Gen. B. 1840, Type.
p. 58 *A. nitidissima*.
Chlamydæna, Bp. Compt. Rend. xxxix.
1854, p. 879 *A. nitidissima*.
Furningus, Des Murs, Enc. d. H. N.
vii. Ois. p. 32 (1854) *A. madagascariensis*.
Funingus, Bp. (correction) Compt.
Rend. xxxix. 1854, p. 880 *A. madagascariensis*.
Erythræna, Bp. l. c. *A. pulcherrima*.
Alectorænas, Agassiz, 1855 (correction) *A. nitidissima*.

The little group of Pigeons which I assemble under this genus is confined to Madagascar and the neighbouring islands of the Indian Ocean, and were once probably five in number; of these two are now extinct. *Columba rodericana*,

M. A. Milne-Edwards, from the island of Rodriguez, is only known from a few bones, which scarcely justify one in assigning a place to it in our classification. The other extinct member of this genus is the type *A. nitidissima*, formerly found in the Mauritius, only at present known by three preserved specimens, one in the Paris Museum, another in the Museum of Port Louis, the capital of Mauritius, and the third in the Museum of Science and Art in Edinburgh. The three existing species are confined to Madagascar, the Comoro Islands, and Seychelles. Two inhabit Madagascar—*A. madagascariensis*, confined to that island, and *A. sganzini*, which ranges also over the Comoro group, having been procured at Mayotte, Anjuan, and Great Comoro. The third, *A. pulcherrima*, is confined to Seychelles.

Key to the Species.

a. Tail blue, like the back.

a¹. Crown red 1. *pulcherrima*.

b¹. Crown silvery grey 2. *sganzini*.

b. Tail red.

b¹. Crown white 3. *nitidissima*.

c¹. Crown deep slate-colour 4. *madagascariensis*.

1. *ALECTRÆNAS PULCHERRIMA*.

Le Pigeon violet à tête rouge d'Antique, Sonn. Voy. Nouv. Guinée, 1776, p. 112, pl. 67.

Columba pulcherrima, Scop. Flor. et Faun. Insub. ii. 1876, p. 94 (ex Sonn.).

Columba rubricapilla, Gm. S. N. i. 1788, p. 784; Temm. & Knip, Fig. i. 1808–1838, p. 52, pl. 20 (good).

Erythræna pulcherrima, Bp. Consp. Gen. Av. ii. 1857, p. 30; E. Newton, P. Z. S. 1867, p. 344; id. Ibis, 1867, p. 359.

Ptilonopus pulcherrimus, Gray & Mitch. Gen. B. ii. 1849, p. 467.

Alectrænas pulcherrima, Hartl. Vög. Madag. 1877, p. 264.

Entire body, wings, tail, and feathers of the tarsus deep indigo-blue, with brighter blue reflections; the crop and neck ashy white, shading into pearl-grey towards the head, and into leaden grey on the cheeks and ear-coverts; fore-

head and crown crimson ; the sides of the head and front of the forehead scarlet and much wattled ; under tail-coverts deep green with bright reflections ; iris red ; bill dusky black with the end whitish ; feet greyish olive. Total length 9·1 inches, culmen 0·7, wing 6·15, tail 3·5, tarsus 1.

Hab. Confined to the Seychelles archipelago, where it has been procured on the islands of Mahé, Silhouette, Praslin, and Marianne.

The description is taken from a specimen in my own collection.

2. ALECTRÆNAS SGANZINI.

Columba sganzini, Verr. MS.

Furningus sganzini, DesMurs, Encyclop. Hist. Nat. Ois. vi. p. 32.

Furningus madagascariensis, Cab. v. d. Decken's Reisen, iii. 1869, p. 43, Great Comoro.

Alectrænas sganzini, Scat. Ibis, 1864, p. 300, Anjuan ; E. Newton, P. Z. S. 1877, pp. 300, 302, Anjuan ; Hartl. Vög. Madag. 1877, p. 260, Madagascar ; Shelley, P. Z. S. 1879, p. 678.

Ptilopus sganzini, Schl. P. Z. S. 1866, p. 424, Mayotte ; Schl. & Poll. Faun. Madag. Ois. 1868, p. 115, pl. 37 (good).

Similar in general plumage to *A. pulcherrima*, but differs in the forehead and crown being pale grey and entirely covered by feathers, the chin and throat white, no wattles on the head, but a large bare scarlet patch round the eye ; the white of the neck extends further onto the back, that part being more or less washed with white ; the under tail-coverts are bluer, the smaller feathers only being partially washed with green ; iris red ; bill dusky olive, slightly paler towards the tip ; feet olive-grey. Total length 10·5 inches, culmen 0·7, wing 6·7, tail 4·1, tarsus 0·9.

Hab. The Comoro Islands and Madagascar, the latter locality for this species resting solely on a single specimen in the Paris Museum.

In Mayotte, according to Schlegel and Pollen, these birds are common in the virgin forest, where they may be met with perched, in bands of ten or twelve, in the upper boughs of the

taller trees, and are easily killed, as they generally return at once to the same tree after being shot at. On that island they feed principally upon the wild dates, and are very good eating.

In Anjuan, according to Sir John Kirk, this species is very abundant in the forest from the base of the hills up to about 1000 feet. Mr. E. Newton calls it "a stupid bird, allowing you to get quite near it; food in crop figs; iris red. Native name 'Ningha.'"

In Great Comoro it would appear to be equally abundant, if I may judge from the fine series sent to me from that island by Sir John Kirk. Its occurrence in Madagascar appears to me very doubtful.

I have described a specimen in my own collection from Great Comoro.

3. *ALECTRÆNAS NITIDISSIMA*.

Pigeon Holandais, Sonn. Voy. Ind. Orient. 1782, p. 175, pl. 100, Mauritius.

Columba nitidissima, Scop. Flor. et Faun. Insub. ii. 1786, p. 93 (ex Sonn.).

Columba franciæ, Gm. S. N. i. 1788, p. 779; Temm. & Knip, Fig. i. 1808-1838, p. 50, pl. 19 (fair); Temm. Hist. Pige. et Gall. 1813, p. 228, 463.

Le Ramier hérissé, Levaill. Ois. d'Afr. vi. 1808, p. 74, pl. 267 (fair); Sundev. Crit. om Levaill. 1857, p. 53.

Columba batavica, Bonn. Enc. Méth. 1823, p. 233.

Columba jubata, Wagl. Syst. Av., *Columba*, 1827, sp. 22.

Alectrænas nitidissimus, Gray, List Gen. B. 1840, p. 58; Hartl. Vög. Madag. 1877, p. 65; A. Newton, P. Z. S. 1879, p. 2.

Body and wings indigo-blue; feathers of the head and neck white and more elongated on the crown; the bare scarlet patch surrounding the eye extends onto the cheek and across the front of the forehead; upper tail-coverts and tail vermilion, a large portion of the outer web of the tail and a great portion of the inner webs of the tail-feathers black; iris red; bill dusky slate-colour, with the base red and the

end yellow; feet slate-colour. Total length 11·8 inches, bill 1, wing 8·2, tail 5·2.

Hab. Mauritius (now extinct).

I have not been able to examine a specimen of this bird, so have taken my description from other authors, with the assistance of the figure of *Le Ramier hérissé* of Levaillant and the measurements given by Dr. Hartlaub ('Vög. Madagascar'). The colouring of the under tail-coverts is unknown to me, but is probably red and green, as in *A. madagascariensis*. For my present purpose I think the above description sufficient.

4. ALECTRÆNAS MADAGASCARIENSIS.

Columba madagascariensis, Linn. S. N. i. 1766, p. 283; Temm. & Knip, Fig. i. 1808-1838, p. 46, pl. 17 (fair).

Le Ramier Founingo, Levaill. Ois. d'Afr. vi. 1808, p. 72, pl. 266 (fair).

Columba phænicura, Wagl. Syst. Av., *Columba*, 1827, sp. 23.

Carpophaga madagascariensis, Gray & Mitch. Gen. B. ii. 1849, p. 469.

Furningus madagascariensis, Bp. Consp. Gen. Av. ii. 1857, p. 29; Selat. P. Z. S. 1863, p. 164; Roche & E. Newton, Ibis, 1863, p. 167; Grand. Rev. et Mag. Zool. 1867, p. 418; Aquarone, Bull. Soc. Imp. Acclim. 1869, p. 361; Sharpe, P. Z. S. 1870, p. 399.

Ptilopus madagascariensis, Gray, List Brit. Mus. Columb. 1856, p. 9; Schl. P. Z. S. 1866, p. 424; Schl. & Poll. Faun. Madag. Ois. 1868, p. 115.

Alectrænas madagascariensis, Hartl. Vög. Madag. 1877, p. 262.

Body and wings indigo-blue; neck slaty grey, passing almost into deep indigo-blue on the forehead, crown, nape, cheeks and ear-coverts; the slaty grey of the neck not sharply defined in front, but gradually passes on the crop into the colour of the breast; upper tail-coverts and tail crimson, glossed towards their junction with bright blue and often with green; tail with nearly the entire outer webs and the bases of all the feathers slaty black; all but the two centre

feathers have narrow ends and broader inner margins of black, with a greenish gloss; under tail-coverts shade into crimson on the larger feathers, the remainder glossy green, mottled with large buff centres and partial edges; a bare patch round the eye red; iris red; bill olive-shaded slate-colour, fading into yellowish-white towards the tip; feet red, powdered with white between the scales. Total length 11 inches, culmen 0·6, wing 7, tail 3·8, tarsus 0·85.

Hab. Madagascar.

According to Schlegel and Pollen this bird is probably commoner on the east than the west of the island, but rather rare in the north-east. It lives in bands of six to eight, inhabiting the higher branches of the taller forest-trees, and is shy and difficult to approach. Its flight is strong and rapid. It feeds on berries, fruit, and grain, and during the planting of the rice-crops does much damage and becomes excessively fat, but is never so good to eat as the other Madagascar Pigeons. It is easily tamed, but is very lethargic in its habits. The native name is "Finingo," according to Schlegel and Pollen, and "Founi," according to Dr. Miller.

My description is taken from a specimen in my own collection.

II. *TRERON*.

Type.

Treron, Vieill. Analyse, 1816, p. 49 . . . *T. amboinensis*.

Vinago, Cuv. Règn. Anim. i. 1817, p. 457 . *T. waalia*.

Phalacrotreron, Bp. Compt. Rend. xxxix.

1854, p. 872 *T. calva*.

The genus *Treron* ranges over the whole of Tropical and Southern Africa, Madagascar, and a large portion of the Indo-Malayan Region.

In Africa there are five well-marked species, and as the sexes do not differ in plumage, there is no reason for their being confounded; yet there is a general similarity in the colouring of them all, which has entailed many errors in nomenclature, and renders their geographical distribution somewhat uncertain.

Key to the Species.

- a.* With no grey collar at the base of the hind neck ; thighs not uniform bright yellow ; tail above grey.
- a*¹. Head and neck ashy olive ; chest bright yellow ; thighs buff mottled with yellow 5. *waalia*.
- b*¹. Head, neck, and chest uniform olive-yellow ; thighs bright yellow mottled with black 6. *australis*.
- b.* With a grey collar at the base of the hind neck ; thighs uniform bright yellow.
- b*¹. Tail above grey ; olive of the back and wings less yellow 7. *calva*.
- c*¹. Tail above olive-yellow like the back ; olive of the back and wings yellower.
- c*². Head, neck, and chest olive-yellow ; terminal bar to the tail above slightly paler and more distinctly marked 8. *wakefieldi*.
- d*². Head, neck, and chest ashy olive ; terminal bar to the tail above slightly darker and less distinctly marked 9. *delalandii*.

5. TRERON WAALIA.

Waalìa, Bruce, Trav. Abyss. 1790, p. 186, pl.

“*Columba waalia*, Gm., Bruce’s Reisen, übersetzt v. Cuhn, v. ii. (1791) Zusätze, p. 31 ; id. übersetzt von Volkmann, v. 5 (1791) pp. 188, 190, pl. 38” (*vide* Finsch & Hartl.).

Columba abyssinica, Lath. Ind. Orn. Supp. 1802, p. 60 ; Temm. & Knip, Fig. i. 1808–1838, p. 131, pl. 9 (good), (nec ♀, pl. 8).

Le Columba à épaulettes, male, Levaill. Ois. d’Afr. vi. 1808, pl. 276 (not good).

Columba humeralis, Wagl. Syst. Av., *Columba*, 1827, sp. 2 (excl. ♀).

Vinago abyssinica, Cuv. Règn. An. 1817, p. 457 ; ? Verr. Rev. et Mag. Zool. 1851, p. 422, Gaboon ; Antin. & Salvad. Viagg. Bogos, 1873, p. 129.

Treron abyssinica, Gray, List Gall. 1844, p. 3 ; Hartl. Orn. W. Afr. 1857, p. 193, pt. ; ? Hartl. J. f. O. 1861, p. 266, St. Thomas’s Is. ; Blanf. Geol. & Zool. Abyss. 1870, p. 418.

Phalacrotreron abyssinina, Reichb. Taub. 1855, pp. 108, 181, pl. 242. figs. 1345–1346 ; Antin. Cat. descr. Ucc. 1864, p. 87.

Geopelia humeralis, Heugl. Syst. Uebers. 1856, p. 49.

Treron waalia, Finsch & Hartl. Vög. Ostaf. 1870, p. 533; Finsch & Jesse, Tr. L. S. vii. 1870, p. 288; Heugl. Orn. N.O.-Afr. 1871-1875, p. 817, App. p. 168; Hartl. Abhandl. nat. Vereins Bremen, vii. 1881, p. 117, Lado; Sclat. & Hartl. P. Z. S. 1881, p. 173, Socotra.

Entire head and neck pale ashy olive; back, scapulars, inner wing-coverts, innermost secondaries, and upper tail-coverts olive-yellow; remainder of the least and median wing-coverts rich vinous; remainder of the wings blackish brown; outer median wing-coverts, greater wing-coverts, and secondaries with very distinct yellowish-buff partial edges to their outer webs towards their ends; primaries with narrower partial buff edges on their outer webs; tail above leaden grey, shading into slaty black on the basal two thirds of all but the two centre feathers; chest bright gamboge-yellow, surrounded on the crop and sides by pale ashy olive; abdomen white; thighs buff mottled with bright yellow; thigh-coverts olive-green, with broad buff or yellowish-buff edges to the feathers; under tail-coverts with very broad white or buff edges, the centres of the smaller feathers being olive-grey and of the larger ones chestnut; under surface of the tail-feathers slaty black, hidden by the coverts, and with very broad white ends; under surface of the wings leaden grey, inclining to brown towards the outer webs of the quills; "iris blue, with an outer rim of salmon-pink; beak bluish grey, red at base; legs and feet pinkish yellow, toes blue" (*Jesse*). Total length 12·7 inches, culmen 0·6, wing 6·7, tail 4·3, tail 0·85.

Hab. Socotra, N.E. Africa, and Senegambia.

According to Dr. Hartlaub (Abh. nat. Ver. Bremen, vii. p. 117) there is a specimen of this Pigeon from Senegal in the Bremen Museum.

The following records of its occurrence, in my opinion, most probably refer to other species:—Casamanse (*Verr.*), Guinea (*Hartl.*), St. Thomas's Island (*Weiss*, Hartl. Orn. W.-Afr. p. 193), to *T. calva*; and *T. abyssinica* (Kirk, Ibis, 1864, p. 329), from Shupanga on the Zambesi, to *T. wakefieldi* or *T. delalandii*.

6. TRERON AUSTRALIS.

Columba australis, Linn. Mant. 1771, p. 526; Temm. & Knip, Fig. i. 1808-1838, pl. 3 (good).

Columba madagascariensis, Gm. S. N. i. 1788, p. 779.

Columba humeralis, Wagl. Syst. Av., Columba, 1827, sp. 2 (excl. ♂).

Vinago australis, Cuv. Règne Anim. i. 1817, p. 457; Jard. Ill. Orn. iv. pl. 81 (1825-1839); Selat. P. Z. S. 1863, p. 164; Roch & Newton, Ibis, 1863, p. 167; E. Newton, Ibis, 1863, p. 454; Grand. Rev. et Mag. Zool. 1867, p. 418; Hartl. Vög. Madag. 1877, p. 259.

Treron australis, Gray & Mitch. Gen. B. ii. 1849, p. 467; Bartlett, P. Z. S. 1875, p. 67.

Somewhat similar in plumage to *T. waalia*, but has the entire head and neck greenish yellow, and the centre of the breast of the same colour; back, scapulars, inner wing-coverts, the whole of the median wing-coverts, innermost secondaries, and upper tail-coverts olive, less shaded with yellow than in *T. waalia*; a small portion only of the least wing-coverts rich vinous; outer median wing-coverts and the greater wing-coverts with much broader yellowish-buff partial edges to their outer webs; remainder of the wings about similar; tail with the dark basal portion above slightly washed with greenish yellow; chest greenish yellow, like the neck, shading into grey on the sides; abdomen bright yellow; thighs bright yellow mottled with black; thigh-coverts, under tail-coverts, and under surface of the wing very similar to *T. waalia*, the ashy-white ends of the tail-feathers underneath rather narrower. Iris light blue; bill grey, with the basal portion lake-pink; legs yellow. Total length 14·2 inches, culmen 0·55, wing 6·75, tail 4·3, tarsus 1·1.

Hab. Madagascar.

7. TRERON CALVA.

Columba calva, Temm. & Knip, Fig. i. 1808-1838, p. 35, pl. 7 (bad); Temm. Hist. Nat. Pige. et Gall. 1813, pp. 63, 442.

Vinago calva, Cuv. Règne An. i. 1817, p. 492.

Vinago nudirostris, Swains. B. W. Afr. ii. 1837, p. 205, Senegal; Gordon, Contr. Orn. 1849, p. 12, Gold Coast; Verr. Rev. et Mag. Zool. 1851, p. 421, Gaboon.

Treron crassirostris, Fraser, P. Z. S. 1843, p. 35, W. Africa; Allen & Thomas, Exp. Niger, ii. 1848, p. 42, Rollas I.; Fraser, Zool. Typ. 1849, pl. 60.

Treron calva, Gray, List Gall. 1844, p. 14; Hartl. J. f. O. 1855, p. 361, Gold Coast; id. Orn. W.-Afr. 1857, p. 192; id. J. f. O. 1861, p. 266, Bissao; Dohrn, P. Z. S. 1866, p. 339, Prince's I.; Sharpe, P. Z. S. 1869, p. 570, Angola; id. Ibis, 1869, p. 194, Fantee; id. P. Z. S. 1870, p. 147, Angola; Finsch & Hartl. Vög. Ostaf. 1870, p. 539, note; Shelley & Buckley, Ibis, 1872, p. 290, Gold Coast; Sharpe, P. Z. S. 1874, p. 206, Bulama; Reichenow, J. f. O. 1874, p. 388, Camaroons, Gaboon; Monteiro, Angola & Congo, ii. 1875, p. 169; Reichenow, J. f. O. 1877, pp. 7, 14, Loango Coast; Bocage, Orn. Angola, 1881, p. 378.

Vinago pyterioptis, Verr. Rev. et Mag. Zool. 1851, p. 421, Gaboon.

Phalacrotreron calva, Reichb. Taub. 1855, p. 107, pl. 240*b*. fig. 3370, Suppl. pl. 5. fig. 52; Bp. Icon. Pig. 1857, pl. 3. fig. A (head); Gurney in Anderss. B. Dam. Ld. 1872, p. 230.

Phalacrotreron crassirostris, Reichb. Taub. 1855, pp. 107, 181, Suppl. pl. 5. fig. 53; Bp. Icon. Pig. 1857, pl. 2.

Phalacrotreron nudirostris, Reichb. Taub. 1855, pp. 107, 181, pl. 244. fig. 2486, Suppl. pl. 5. fig. 51; Bp. Icon. Pig. 1857, pl. 3. fig. B.

Treron nudirostris, Hartl. Orn. W.-Afr. 1857, p. 192; Cass. Pr. Philad. Acad. 1859, p. 143, Gaboon; Hartl. & Monteiro, P. Z. S. 1860, p. 112, Angola; Hartl. J. f. O. 1861, p. 266; Heugl. Orn. N.O.-Afr. 1871-1875, p. 821, App. p. 168, pt., excl. Mombas; Finsch & Hartl. Vög. Ostaf. 1870, p. 537, pt., excl. Mombas; Sharpe & Bouvier, Bull. Soc. Zool. France, 1867, p. 52, Chinchoxo; Hartl. Abhandl. nat. Ver. Bremen, vii. 1881, p. 117, N.E. Afr.

Vinago australis, Jard. & Selby (nec Linn.), Ill. Orn. pl. 81.

Treron nudifrons, Heugl. MS, . . .

Very similar to *T. australis*, but a smaller bird, with a bare forehead; has a broad leaden-grey collar at the base of the hind neck; the vinous patch on the wings is slightly larger, extending over nearly the whole of the least series of wing-coverts; the yellowish-buff partial edges to some of the wing-feathers narrower; tail grey, occasionally very narrowly washed with greenish yellow at the edges of the feathers; the entire underparts agree well with *T. australis*, with the exception of the thighs, which are uniform bright yellow, not mottled with black; iris blue, surrounded by a red rim; bill bluish grey, with the basal portion red; feet yellowish flesh-colour. Total length 10·5 inches, culmen from the frontal feathers 0·95, wing 6·1, tail 3·7, tarsus 0·9.

Hab. West Africa from Senegal to Ondonga in Damara Land, and in East Africa from about 16° N. lat. to the equator.

I have failed to detect any character for the separation of *T. nudirostris* and *T. crassirostris* from *T. calva*. The so-called *T. nudirostris* collected by Von der Decken at Mombas probably belongs to *T. wakefieldi*, but I have not examined the specimens.

My description is taken from a Gold-Coast specimen in my own collection. I have also examined specimens of this species from Abyssinia, Gaboon, R. Danger (*Ansell*), Ambriz and Angola (*Monteiro*). Two of the specimens in the British Museum have M. Verreaux's labels with "*Phalacrotreron nudirostris*" and "*P. crassirostris*" written on them.

8. *TRERON WAKEFIELDI*.

? *Treron nudirostris*, Hartl. P. Z. S. 1863, p. 106, Kazeh (*Speke*); Cab. v. d. Decken's Reisen, iii. p. 42 (1869), Mombas; Finsch & Hartl. Vög. Ostaf. p. 537, pt., ex Mombas; Heugl. Orn. N.O.-Afr. p. 831, pt., ex Mombas.

? *Treron abyssinica*, Kirk, nec Lath. 1864, p. 329 (Zambesi).

Treron wakefieldi, Sharpe, P. Z. S. 1873, p. 715, pl. 58. fig. 2, Mombas (*Wakefield*); Fischer & Reichenow, J. f. O. 1879, pp. 271, 339; Shelley, P. Z. S. 1881, p. 595, Lamo and Pangani (*Kirk*); Gurney, Ibis, 1881, p. 128.

Very similar to *T. calva*, which it resembles in size, nudity of the forehead, the grey collar at the base of the hind neck, the vinous and yellow on the wings, the thighs being bright yellow, and in the under tail-coverts; but differs in the head, neck, and chest being yellower, in the olive parts of the back and wings being also yellower, and in the tail being above olive-yellow instead of grey, and ending in a broad yellowish-buff terminal bar; the iris, bill, and legs are probably similarly coloured to those of *T. calva*. Total length 9·2 inches, culmen from the frontal feathers 0·8, wing 6·15, tail 3·5, tarsus 0·9.

Hab. E. Africa, from Lamo to Matabele Land.

My description is taken from a specimen collected by Sir John Kirk at Lamo. Mr. Sharpe, by error, in his original description, gave the culmen as 1·8 inch instead of 0·8. I have also examined specimens from Mombas (*Wakefield*), Pangani (*Kirk*), Zambesi (*Bradshaw*), and Matabele (*Oates*). In these the length of the wing varies from 5·7 inches to 7·2. Prof. Barboza du Bocage (*Orn. Angola*, p. 379) observes that some specimens from Quango, Biballa, and Humbe differ from his typical *T. calva* in their yellower colouring, and may, I think, possibly refer to *T. wakefieldi*; but I have not seen the specimens, and the author does not remark on the colouring of the tail. The greenish-yellow colouring of the upper surface of the tail in this species is, I consider, the best-marked character for its separation from the grey-tailed *T. calva*.

9. *TRERON DELALANDII*.

Treron australis, Gray (nec Linn.), List Spec. Brit. Mus. iii. 1844, p. 3, pt.

Vinago calva, Verr. (nec Temm.) Rev. et Mag. Zool. 1851, p. 423; Jard. Edinb. New Phil. Journ. n. s. ii. 1855, p. 246; Bianc. Spec. Zool. Mosamb. fasc. xvi. 1865, p. 400.

Treron nudirostris, Licht. (nec Swains.) Nomencl. Av. 1854, p. 82.

Phalacrotreron delalandii, Bp. Compt. Rend. xxxix. 1854, p. 872; id. Icon. Pig. 1857, pl. 1; Ayres, Ibis, 1880, p. 109, Transvaal.

Treron delalandii, Gray, List Brit. Mus. Columb. 1856, p. 14; Sclat. P. Z. S. 1862, p. 12, Ugaramo; Gurney, Ibis, 1862, p. 33, Natal; Sclat. P. Z. S. 1864, p. 113; Hartl. P. Z. S. 1867, p. 827, Zanzibar; Layard, B. S. Afr. 1867, p. 255; Gurney, Ibis, 1868, p. 164; Kersten, v. d. Decken's Reisen, i. 1869, p. 60; Finsch & Hartl. Vög. Ostaf. 1870, p. 535; Heugl. Orn. N.O.-Afr. 1871-1875, p. 822, App. p. 168; Shelley, Ibis, 1875, p. 83, Pinetown; Nicholson, P. Z. S. 1878, p. 359, Dar-es-Salaam; Fischer & Reichenow, J. f. O. 1878, pp. 250, 293, Mombas; Holub & Pelz. Beitr. Orn. Sudafr. 1882, p. 171; Shelley, Ibis, 1882, p. 358, Matabele.

Very similar to *T. calva* and *T. wakefieldi*, but differs from them both in the more ashy-olive shade of the head, neck, and breast; the feathers extend further onto the forehead; the vinous patch on the wings is generally slightly paler and more ashy, remainder of the wings similar, excepting that the olive parts, as well as the back and the tail, are yellower; tail olive-yellow, as in *T. wakefieldi*, with the broad terminal paler bar not so strongly marked; "iris grey; bill grey, with the basal portion pink; legs red" (*T. L. Ayres*). Total length 10 inches, culmen from frontal feathers 0.9, wing 6.65, tail 4.1, tarsus 0.95.

Hab. E. Africa, Mombas to Kaffraria.

My description is taken from a male collected by Mr. T. Ayres at Pinetown, in Natal. The specimens examined vary in length of wing from 6.2 to 6.8 inches.

Subfam. II. COLUMBINÆ.

Tail of 12 feathers; tarsus entirely bare or feathered only on the upper portion in front.

a. With the wing longer than the tail.

- a¹. Tail not two thirds of wing. Distance between the tip of the secondaries and tip of wing more than half the length of tail. Breed in holes. Tarsus naked. Fourth primary never longer than any of the outer three 1. *Columba*.

- b*¹. Tail more than two thirds of wing. Distance between the tip of the secondaries and tip of wing less than half the length of tail. Do not breed in holes. Tarsus naked or feathered on the front towards the knee-joint. Fourth primary not always shorter than one or more of the outer three.
- b*². With no metallic spots on the wings; under surface of the wings not rufous.
- b*³. With no pale terminal bar to the tail underneath. Larger.
- b*⁴. Fourth primary longest; tarsus entirely naked 2. *Trocaza*.
- c*⁴. Fourth primary shorter than the outer three; upper portion of the tarsus feathered in front 3. *Palumbus*.
- c*¹. With a white or pale terminal bar to the tail underneath. Smaller.
- c*⁴. With no trace of black on the neck. Back of the neck and front of the mantle glossed with metallic shades.
- c*⁵. Fourth primary shorter than the outer three; tarsus shorter than the hind toe with claw; upper portion of the tarsus occasionally feathered. Sexes sometimes dissimilar 4. *Turturæna*.
- d*³. Fourth primary longer than the first; tarsus longer than the hind toe with claw, and always entirely naked. Sexes always similar in plumage. 5. *Haplopelia*.
- d*⁴. With a more or less defined partial black collar on the neck; with no metallic shades on any portion of the plumage . . 6. *Turtur*.
- c*². With large metallic spots on the wings; under surface of the wings rufous.
- c*³. First primary entire 7. *Chalcopelia*.
- d*³. First primary sulcated 8. *Tympanistreria*.
- b*. Tail longer than the wing.
- b*¹. First primary entire. Sexes very dissimilar in plumage 9. *Æna*.
- c*¹. First primary sulcated. Sexes similar in plumage 10. *Geopelia*.

The ten divisions to which I give generic value in the present subfamily are in their nature somewhat unsatisfactory, being, to a great extent, founded upon the arrangement of the colours;

but by this means I think we arrive at an apparently natural arrangement, which can be easily followed, although perhaps the value of the genera may in some instances be questioned.

I. COLUMBA.

Type.

Columba, Linn. Syst. Nat. i. 1766, p. 279 . . . *C. livia*.

Taniænas, Reichb. 1853, *vide* Gray, Taub.

1855, p. 59 *C. albitorques*.

Lithænas, Reichb. tom. cit. p. 54 *C. livia*.

Palumbæna, Bp. Compt. Rend. xxxix. 1854,

p. 1107 *C. ænas*.

The members of the genus *Columba*, unlike all other Pigeons, breed in holes.

Six species are met with on the African continent; but one, *C. ænas*, properly belongs only to the Western Palæ-arctic Region.

C. chlorophæa, Hartl., from Prince's Island, is, in my opinion, after an examination of the type in the British Museum, nothing but a variety of *C. livia*, and *C. schimperi* is another variety of that species.

Key to the Species.

a. Mantle grey.

a¹. Entire underparts grey; with no white bar on the tail.

a². With no white on the neck.

a². Neck glossed all round with metallic green, passing into coppery purple on the front and sides; under wing-coverts white 1. *livia*.

b³. Neck glossed only on the sides and back with metallic green; under wing-coverts leaden grey 2. *ænas*.

b³. With a large white patch on the nape 3. *albitorques*.

b¹. Middle of the abdomen and under tail-coverts white; a broad white bar on the tail 4. *unicincta*.

b. Mantle brown; wing-coverts spotted with white.

b¹. Rump and upper tail-coverts ashy white 5. *guineensis*.

c¹. Rump and upper tail-coverts deep leaden grey . . . 6. *phæonota*.

1. COLUMBA LIVIA.

Columba livia, Briss. Orn. i. 1760, p. 82; Gm. S. N. i. 1788, p. 769 (ex Briss.); Bonn. Tabl. Encycl. et Méthod. i. 1790, p. 227; Temm. & Knip, Fig. i. 1808–1838, p. 27, pl. 12 (good); Gould, B. Eur. iv. 1837, pl. 245 (good); Hartl. J. f. O. 1854, p. 205, Senegal; Vernon Harcourt, P. Z. S. 1851, p. 142, Madeira; Hartl. Orn. W.-Afr. 1857, p. 193; Boll. J. f. O. 1857, p. 330, Canaries; Tristram, Ibis, 1859, pp. 35, 318, Palestine; 1860, p. 68, Algeria; Hartl. J. f. O. 1861, p. 266; Godman, Ibis, 1866, pp. 99, 107, Azores; Chambers, Ibis, 1867, p. 101, Tripoli; Drake, l. c. p. 428, E. Morocco; Tristram, Ibis, 1868, p. 209, Palestine; Schl. & Poll. Faune Madag. 1868, p. 155; Taczanowski, J. f. O. 1870, p. 51, Constantine; Gurney, Ibis, 1871, p. 275, Algeria; Dohrn, J. f. O. 1871, p. 7, Cape-Verd Is.; Heugl. Orn. N.O.-Afr. 1871–1875, p. 828, App. p. 169; Shelley, B. Egypt, 1872, p. 211; Godman, Ibis, 1872, p. 218, Canaries and Madeira; Gould, B. Gt. Brit. iv. 1873, pl. 3; Hartl. Vög. Madag. 1877, p. 266; Dresser, B. Eur. vii. 1879, p. 11, pl. 457 (good).

Columba saxatilis, Briss. Orn. i. 1760, p. 84; Gm. S. N. i. 1788, p. 769 (ex Briss.).

Columba ænas, Linn. S. N. 1866, p. 279, pt.

Columba domestica, Linn. S. N. i. 1766, p. 279, var. *a*.

Columba amaliæ, C. L. Brehm, Vög. Deutschl. 1831, p. 491.

Columba intermedia, Strickl. Ann. & Mag. Nat. Hist. 1844, p. 39.

Columba turricola, Bp. Compt. Rend. xxxix. 1854, p. 1106; Selys-Longchamps, Ibis, 1870, pp. 453, 454.

Columba schimperi, Bp. Compt. Rend. xxxix. 1854, p. 1106; Taylor, Ibis, 1859, p. 49, Egypt; Tristram, P. Z. S. 1864, p. 418, Palestine; Taylor, Ibis, 1867, p. 66, Egypt; Tristram, Ibis, 1868, pp. 209, 210, Palestine; Wyatt, Ibis, 1870, pp. 2, 6, 16, Palestine; Shelley, B. Egypt, 1872, p. 212.

Columba rupestris (nec Bp.), *C. elegans*, *C. glauconotus*, *C. unicolor*, *C. dubia*, C. L. Brehm, Vogelfang, 1855, p. 256.

Palumbus livia, Heugl. Syst. Uchers. 1856, p. 49.

Columba gymnocyclus, *C. plumipes*, G. R. Gray, List B. Brit. Mus. iv. 1856, pp. 28, 29.

Columba sp. ?, Tristram, Ibis, 1859, p. 35, Palestine.

Columba chlorophæa, Hartl. P. Z. S. 1866, p. 329, Prince's Island.

Columba fusca, Severtzoff, Turk. Jevotn. 1873, p. 68.

Columba neglecta, Hume, Lahore to Yark. 1873, p. 272.

Head and upper neck slaty grey; remainder of the neck, all round, metallic green, passing below into rich metallic coppery purple; upper back, wing-coverts, lower portion of the rump, upper tail-coverts, and tail leaden grey, with the middle back and upper portion of the rump ashy white; the greater and median wing-coverts, with the exception of the outer ones, have broad black subterminal bars, generally confined to the outer webs of the feathers, and which form two distinct cross bars on the wings; quills dark brown, partially washed with grey; the tail has a broad terminal black bar; breast and under tail-coverts leaden grey; axillaries and under wing-coverts white, the latter shaded with grey towards the edges of the wings; under surface of the quills white, shading into brown on the outer webs and towards their ends; iris orange-red; bill vinous slate-colour, inclining to white on the cere; legs red. Total length 11 inches, culmen 0·8, wing 8·5, tail 4·6, tarsus 1·2.

Hab. As a domestic bird the whole coast of the African continent and all the islands within my limits, and is liable to form a wild colony anywhere.

The characters which most readily distinguish *C. livia* from its near ally *C. ænas* are:—the green metallic collar entirely surrounding the neck and passing below into rich coppery purple; the two distinct black bars which partially cross the wing; the axillaries, greater portion of the under wing-coverts, and under surface of the quills being white; the nearly white colouring of the middle and lower back; but this latter is not so constant a character, being absent in the variety *C. schimperi*.

2. COLUMBA ÆNAS.

Columba ænas sive *vinago*, Briss. Orn. i. 1860, p. 86.

Columba ænas, Linn. Faun. Suec. 1761, p. 75; id. S. N. i.

1766, p. 279, pt. ; Temm. & Knip, Fig. i. 1808-1838, p. 24, p. 11 (good) ; Gould, B. Eur. iv. 1837, pl. 244 (good) ; Vernon Harcourt, P. Z. S. 1851, p. 146, Madeira ; Tristram, Ibis, 1859, p. 35, Palestine ; 1860, p. 69, Algeria ; id. P. Z. S. 1864, p. 448 ; 1868, p. 209, Palestine ; Heugl. Orn. N.O.-Afr. 1871-1875, p. 827, App. p. 168, Egypt ; Shelley, B. Egypt, 1872, p. 213 ; Gould, B. Gt. Brit. iv. 1873, pl. 2 (good) ; Dresser, B. Eur. vii. 1876, p. 23, pl. 458 ; Danford, Ibis, 1878, p. 27, Asia Minor.

Columba cavorum, C. L. Brehm, Vög. Deutschl. 1831, p. 492.

Palumbæna ænas, Bp. Compt. Rend. xxxix. 1854, p. 1106.

Columba arborea, C. L. Brehm, Vogelfang, 1855, p. 257.

Pabumbæna columbella, Bp. Cat. Parzud. 1856, p. 9.

General plumage leaden grey, with the upper back, scapulars, and inner secondaries darker ; sides and back of the neck brilliant metallic green, shot with lilac in certain lights ; a few of the inner secondaries and inner greater and median wing-coverts are boldly blotched with black on their outer webs ; the bastard wing- and primary-coverts shade into black, and the outer secondaries have broad black ends ; the primaries shade into slaty brown towards their ends and on the entire outer feathers ; tail with a broad black end ; lower throat and crop vinous, gradually shading into grey on the chest ; under surface of the tail slaty black, paler towards the base, and with a paler broadish bar about one inch from the end ; under wing-coverts leaden grey ; under surface of the quills dark brown, slightly washed with grey, and with very narrow partial white edges to their inner webs ; iris dark brown ; bill inclining to grey towards the cere and yellow at the tip ; legs red. Total length 13·5 inches, culmen 0·8, wing 8·4, tail 4·8, tarsus 1·1.

Hab. Madeira, the Azores, and the shores of the Mediterranean.

This species can hardly be regarded as belonging to the African fauna. Its occurrence in Egypt is highly problematical ; its claim to being Egyptian rests on a single specimen, so labelled, in the Berlin Museum.

3. COLUMBA ALBITORQUES.

Columba albitorques, Rüpp. N. W. 1835, p. 63, pl. 22. fig. 1, Abyssinia; id. Syst. Uebers. 1845, p. 100; DesMurs in Lefebv. Voy. Abyss. Ois. 1845-1850, p. 140; Finsch & Jesse, Trans. L. S. vii. 1869, p. 288, Senafé, Rayrayguddy; Blanf. Geol. & Zool. Abyss. 1870, p. 416; Heugl. Orn. N.O.-Afr. 1871-1875, p. 826, App. p. 169.

Tenienas albitorques, Reichb. Taub. 1855, p. 59, pl. 220. fig. 1243.

Palumbus albitorques, Heugl. Syst. Uebers. 1855, p. 49.

Stictænas albitorques, Schl. Mus. P.-B. iv. 1873, p. 73.

Entire head deep bluish slate-colour; on the nape a broad white collar surrounding the back half of the neck; this collar is indicated all round the neck by a few narrow white tips to the feathers in front and on the sides of the throat; remainder of the neck covered with slaty-blue lanceolate feathers, often with very narrow pale shaft-stripes, and partially glossed with metallic green and purple; back, wings, and tail brown, partially shaded with grey, mostly so towards the outer wing-coverts and on the middle back; some of the inner primary-coverts fade into white and form a rather conspicuous patch on the wing; many of the wing-coverts have large black oval patches on their outer webs; the tail approaches nearly to black on the end half, where, however, it is crossed by a broad paler and more ashy bar, beneath the tail is nearly uniform black; under surface of the body slate-colour, slightly paler and greyer than the back; under tail-coverts deep slaty grey; under surface of the wings brown, with the axillaries and under wing-coverts deep leaden grey; "iris dull red, approaching violet; beak black, cere white; legs pink" (Blanford). Total length 11·2 inches, culmen 0·8, wing 8·6, tail 4·7, tarsus 1·1.

Hab. Abyssinia.

4. COLUMBA UNICINCTA.

Columba unicincta, Cass. Pr. Ac. Phil. 1859, p. 143, Ogo-bai; Heine, J. f. O. 1859, p. 434; Hartl. J. f. O. 1861, p. 266.

“♂. Head above and neck light cinereous ; back and upper wing-coverts dark lead-colour, every feather edged with light bluish cinereous, giving a squamose or scale-like character to those parts ; rump and upper tail-coverts dark lead-colour, more obscurely edged with bluish ashy ; underparts pale vinous, nearly white on the throat and pale ashy on the sides and flanks ; middle of abdomen, tibiæ, and under tail-coverts white ; tail dark lead-colour, nearly black, with one wide transverse band of white across the middle of the feathers ; under wing-coverts dark cinereous ; bill dark greenish at base ; tip of both mandibles yellow ; feet black or horn-colour ; a large naked space round the eye red or dark yellow. Length 13 inches, wing 8, tail 5.” (*Cassin.*)

Hab. W. Africa.

I have not been able to examine a specimen of this bird, so have quoted Mr. Cassin's original description, taken from a specimen collected by Dutchaillu on the Ogobai river, Gaboon. Dr. Hartlaub has kindly informed me that a specimen has recently been obtained in Liberia by Mr. Büttikofer.

5. COLUMBA GUINEENSIS.

The Triangular-Spotted Pigeon, Edwards, B. 1847, pl. 75.

Columba guinea, Linn. S. N. i. 1766, p. 282 (ex Edwards); Rüpp. N. W. 1835, p. 67, Abyssinia, Sennaar, Kordofan ; id. Syst. Uebers. 1845, p. 100 ; DesMurs in Lefebv. Voy. Abyss. 1845–1850, p. 139 ; Strickl. P. Z. S. 1850, p. 219, Kordofan ; Strickl. & Scat. Contr. Orn. 1852, p. 246 ; Vierthaler, Naumannia, 1852, p. 48 ; Brehm, J. f. O. 1853, ext. p. 100, Blue Nile ; Hartl. Orn. W.-Afr. 1857, p. 194, Senegal, Casamanse, Guinea, Rollas I., Angola ; id. P. Z. S. 1863, p. 106, E. Afr. ; Scat. P. Z. S. 1864, p. 113, Kazeh, Meningo ; Antin. Cat. 1864, p. 87, White Nile ; Blanf. Geol. & Zool. Abyss. 1870, p. 415, Senafé, Lebka ; Antin. & Salvad. Viagg. Bogos, 1873, p. 130, Keren.

Columba guineensis, Bonn. Enc. Méth. i. 1790, p. 244 ; Finsch & Jesse, Trans. L. S. vii. 1869, p. 288, Abyssinia ; Finsch & Hartl. Vög. Ostaf. 1870, p. 539, pt. ; Hougl. Orn. N.O.-Afr. 1871–1875, p. 822, App. p. 168.

Columba trigonigera, Wagl. Syst. Av., Columba, 1827, sp. 51; Swains. B. W. Afr. ii. 1837, p. 212, pt. descr.; Allen & Thomps. Exp. Niger, ii. 1848, p. 41, Rollas Is.

Stictænas dilloni, Bp. Compt. Rend. xxxix. 1854, p. 1105.

Stictænas guinea, Reichb. Taub. 1855, pp. 59, 171, Suppl. pl. 2. fig. 22.

Stictænas trigonigera, Reichb. Taub. 1855, p. 60, pl. 221. fig. 1250.

Palumbus guineus, Heugl. Syst. Uebers. 1855, p. 49; Hartl. J. f. O. 1863, p. 468.

Very similar to *C. phæonota*, but the grey parts are generally slightly paler, especially the lower back and rump, which, in the present species, is pale pearl-grey, inclining to white. Total length 13·2 inches, culmen 0·9, wing 8·7, tail 4·6, tarsus 1·05.

Hab. West Africa, from Angola to Senegal, and crosses the continent into North-east Africa, where it ranges from Uniamuezi, about 4° S. lat., northward to about 16° N. lat.

My description is taken from a specimen in my own collection labelled "Niger (*Baikie*)."

The *C. guineensis*, Bocage, Orn. Angola, p. 381, I have referred to *C. phæonota*, so I do not include Benguela within the range of this species.

6. COLUMBA PHÆONOTA.

Le Ramier Roussard, Levaill. Ois. d'Afr. vi. 1808, p. 70, pl. 265 (good).

Columba trigonigera, Swains. B. W. Afr. ii. 1837, p. 212 (pt. nec descr.); Gurney, Ibis, 1860, p. 214, 1864, p. 359, 1868, p. 164.

Columba guinea, Strickl. & Selat. Contr. Orn. 1852, p. 156, Damara; Layard, B. S. Afr. 1867, p. 256; Chapman, Trav. S. Afr. 1868, App. p. 411; Woodward, Zoologist, 1875, p. 4615, Natal; Barratt, Ibis, 1876, p. 208, Transvaal.

Columba phæonota, Gray, List Brit. Mus. Columb. 1856, p. 32; Bp. Compt. Rend. xliii. 1856, p. 838; Buckley, Ibis, 1874, p. 384, Natal; Ayres, Ibis, 1877, p. 315, 1880, p. 109, Transvaal; Shelley, Ibis, 1882, p. 359; Butler, Feilden, & Reid, Zoologist, 1883, p. 337, Natal.

Columba guineensis, Finsch & Hartl. Vög. Ostaf. 1870, p. 439, pt. ?; Bocage, Orn. Angola, 1881, p. 381, Huilla, Capangombe.

Stictænas phænotus, Gurney in Anderss. B. Damara Ld. 1872, p. 231; Shelley, Ibis, 1875, p. 83, Cape Colony.

Stictænas trigonigera, Schl. Mus. P.-B. iv. 1873, p. 73.

Entire head leaden grey, with a large patch round the eye crimson; feathers of the neck lanceolate fawn-colour, with the ends vinous, often tinted with grey and partially glossed with metallic lilac and green; upper back, scapulars, inner wing-coverts, and innermost secondaries vinous-chestnut, shading into deep grey on the remainder of the wings; nearly all the wing-coverts are tipped with white triangular spots; the outer secondaries shade into black towards their ends, which are narrowly edged with white; the primaries shade into dark brown towards their ends, and have narrow partial pale edges to their outer webs; remainder of the back, the upper tail-coverts, and the tail dark leaden grey; the tail has a broad terminal bar and a less sharply defined narrower one about the middle black; under surface of the body deep leaden grey (the feathers of the chest sometimes partially edged with vinous, probably a mark of immaturity); under tail-coverts darker, often shading almost into black; under surface of the tail uniform slaty black; under wing-coverts leaden grey; under surface of the quills dark brown; iris pale yellow when immature, changing to red in the adult; bill dusky slate-colour, with the cere white; legs red, powdered with white between the scales. Total length 12·5 inches, culmen 0·9, wing 9·2, tail 4·8, tarsus 1·05.

Hab. S. Africa.

This species, as far as we know, is confined to South Africa, and has not yet been recorded from the whole of that sub-region. It lives in flocks, and much resembles *C. livia* in its habits. It is abundant in Cape Colony, Great Namaqua and Damara Land, and also, at least at certain seasons, plentiful in Kaffraria, Natal, and the Transvaal. I think it highly probable that the *C. guineensis*, Bocage, Orn. Angola, p. 381, belongs to this species, and consequently that it is

a native of Benguela. My description is taken from a male collected by myself in Cape Colony. In the specimens examined, the wing varies from 8·2 inches to 9·2 in length.

II. TROCAZA.

Type.

Trocaza, Bp. Compt. Rend. xxxix. 1854, p. 1104 . *T. meyeri*.

The genus *Trocaza*, Bp., was formed for the reception of *Columba trocاز*, Heineken, and *C. meyeri*, Marchal; and the only important character ascribed to that genus is "Remex prima brevior quam quinta." Now I find that in the former the first primary is not shorter than the fifth, but is so in the latter; therefore I consider *C. meyeri*, Marchal, must be regarded as the proper type of *Trocaza*.

This genus is represented by a single species, which is confined to the island of Mauritius.

7. TROCAZA MEYERI.

Columba meyeri, Marchal, MS., Prévost & Knip, Fig. ii. 1808–1838, pl. 60 (good); Schl. & Poll. Faun. Madag. Ois. 1868, p. 111, pl. 36 (good); Hartl. Vög. Madag. 1877, p. 265.

Trocaza meyeri, Bp. Compt. Rend. xxxix. 1854, p. 1104.

Head, neck, and entire breast pale pink, fading into white towards the forehead, cheeks, and upper throat, and passing into rather darker pink on the front of the upper back; remainder of the upper back and the entire wings brown, with a slight shade of olive and rufous; quills with narrow pale edges; remainder of the back ashy pink, strongly mottled with chestnut on the rump; upper tail-coverts and entire tail uniform chestnut, except the outer tail-feathers on each side, which fade into buff towards their edges; under tail-coverts deep pink; under surface of the wings ashy brown, slightly paler on the axillaries and under wing-coverts; iris yellow; bill yellow, shaded with red towards the base; legs red. Total length 15 inches, culmen 0·9, wing 8·2, tail 7, tarsus 1·2.

Hab. Mauritius.

My description is taken from a specimen in my own collection labelled "Mauritius (*Van Dam*)."

III. PALUMBUS. Type.

Palumbus, Kaup, Nat. Syst. 1829, p. 107 . . . *P. palumbus*.
Stictænas, Reichb. Taub. 1855, p. 59 . . . *P. arquatrix*.

All the members of this genus are of comparatively large size, and have the upper portion of the tarsus near the knee-joint feathered.

I shall include six species in the genus; of these, two only, *P. polleni* and *P. arquatrix*, belong properly to the African Region, the other four, *P. palumbus*, *P. trocaz*, *P. bollii*, and *P. laurivorus*, to the Western Palearctic Region.

Key to the Species.

- a. General plumage nearly uniform brown, with no white spots on the wings. 8. *polleni*.
- b. Wing-coverts and chest spotted with white; bill and legs lemon-yellow 9. *arquatrix*.
- c. With none, or only a small portion, of the plumage brown; wing-coverts and chest with no white spots; bill and legs not lemon-yellow.
 - c¹. With a large patch of white on the sides of the neck and a white patch on the outer wing-coverts. 10. *palumbus*.
 - d¹. With no white on the plumage.
 - d². With a broad pale central bar across the tail.
 - d³. Vinous of the underparts restricted to the upper half of the chest 11. *trocaz*.
 - e³. Vinous of the underparts extends over the whole chest and portion of the abdomen .. 12. *bollii*.
 - e². With no bar on the tail 13. *laurivorus*.

8. PALUMBUS POLLENI.

Columba polleni, Schl. Ned. Tijdschrift v. d. Dierk. iii. 1866, p. 88, Mayotte; id. P. Z. S. 1866, p. 424; Schl. & Poll. Faun. Madag. Ois. 1868, p. 112, pl. 35 (good); Hartl. Vög. Madag. 1871, p. 267; E. Newton, P. Z. S. 1877, pp. 300, 302, Anjuan; Shelley, P. Z. S. 1879, p. 778, Anjuan.

Stictænas polleni, Schl. Mus. P.-B. iv. 1873, p. 72.

Entire plumage nearly uniform brown; a collar at the

back and sides of the neck of lanceolate blackish-brown feathers, with paler ashy-brown ends, these ends often partially edged with buff; the lower back is slightly paler and more ashy than the wings; the tail is uniform; the quills with very partial pale narrow edges; the underparts very slightly paler than the wings and tail, and often have the edges of the feathers slightly washed with rufous, and occasionally the chest is faintly spotted with buff; iris pale brown; bill yellow, shaded towards the base with dusky olive; legs olive, shaded yellow. Total length 13·8 inches, culmen 0·85, wing 8·9, tail 6·3, tarsus 1.

Hab. Comoro Islands.

This Pigeon has, as yet, only been obtained in the islands of Mayotte and Anjuan, where it appears to be rare. On the island of Mayotte it is known to the French colonists as "Pigeon voyageur;" and being a bird well constructed for powerful flight, I think it probably has a wider range than has at present been ascertained. Its nearest ally appears to me to be *P. arquatrix* from the mainland. My description is taken from two specimens collected for me by Sir John Kirk in Anjuan; in one of these the chest is faintly spotted with buff, a sign, I presume, of immaturity.

According to Mr. E. Newton, this species has the "beak and feet yellow, iris yellow." This probably applies to the very fully adult, and the "iris brun clair" of Schl. & Poll. to the rather less adult bird.

9. PALUMBUS ARQUATRIX.

Le Rameron, Levaill. Ois. d'Afr. vi. 1808, p. 67, pl. 264 (good).

Columba arquatrix, Temm. & Knip, Fig. i. 1808-38, p. 11, pl. 5 (not good); Temm. Hist. Pig. et Gall. 1813, pp. 93, 447; Rüpp. N. W. 1835-1840, p. 67, Abyssinia; id. Syst. Uebers. 1845, p. 100, Abyssinia; Gurney, Ibis, 1860, p. 213, Natal; Monteiro, P. Z. S. 1864, p. 18, Benguela; Layard, B. S. Afr. 1867, p. 257, Knysna and Capetown; Heugl. Orn. N.O.-Afr. 1871-1875, p. 825, App. p. 169; Ayres, Ibis, 1880, p. 109, Transvaal; Bocage, Orn. Angola, 1881, p. 382.

Stictænas arquatrix, Reichb. Taub. 1855, p. 59, pl. 221. figs. 1251, 1252.

Stictænas arquatricula, Bp. Consp. Gen. Av. ii. 1857, p. 50.

Forehead, front half of the crown, and the cheeks very deep vinous purple; remainder of the sides of the head, throat, and neck paler, of a more vinous lilac, shaded with grey towards the chin; back half of the crown and the nape pearl-grey; the feathers on the back and sides of the neck are somewhat lanceolate and their black bases partially show; the base of the neck is bordered in front and on the sides by a collar formed by the broad edges of vinous white to the feathers, these edges indented by the dark basal portion, which is shaded with rufous purple; upper back, smaller scapulars, and the inner half of the wing-coverts deep purple-shaded chestnut, passing gradually on the remainder of the wings into leaden grey, which colour again shades into brownish black towards the outer quills and into dark brown on the inner secondaries and greater scapulars; the lesser scapulars and the lesser and median wing-coverts are clearly spotted with white; the primaries are very narrowly edged with white; the middle and lower back deep slaty grey, shading into uniform black on the upper tail-coverts and tail; remainder of the underparts slaty grey; all the feathers of the chest have their edges broadly washed with purple shaded chestnut, and have clear white terminal spots; the under tail-coverts are occasionally edged with white; "iris, bare skin round the eyes, entire bill, and legs yellow" (*Gordge*). Total length 14·8 inches, culmen 0·85, wing 9, tail 6, tarsus 1.

Hab. S. Africa and Abyssinia.

This species ranges throughout South Africa and, according to Mr. T. Ayres, comes to Natal "by thousands in the month of June, leaving again in August; they keep to the bush along the coast, only a few stragglers being found a few miles inland; they feed entirely upon the berries which abound on the trees in the bush during the winter months. I have never seen them alight on the ground; they are shot

here by hundreds, and afford our Durban sportsmen capital sport."

My description is taken from a specimen collected for me by Mr. George at Berg Mountain, near Durban.

10. *PALUMBUS PALUMBUS*.

Columba palumbus, Linn. S. N. i. 1766, p. 282; Temm. & Knip, Fig. i. 1808-1838, p. 3, pl. 2 (good); Gould, B. Eur. iv. 1837, pl. 243 (good); Vernon Harcourt, P. Z. S. 1851, p. 142, Madeira; Salvin, Ibis, 1859, p. 318, E. Atlas; Tristram, Ibis, 1860, p. 152, Algeria; id. P. Z. S. 1864, p. 448, Palestine; Godman, Ibis, 1866, pp. 99, 107, Azores; Drake, Ibis, 1867, p. 408, E. Morocco; Tristram, Ibis, 1868, p. 209, Palestine; Taczanowski, J. f. O. 1870, p. 51, Constantine; Gurney, Ibis, 1871, p. 294, Algeria; Dresser, B. Eur. vii. 1878, p. 3, pl. 456; Danford, Ibis, 1878, p. 27, Asia Minor.

Columba torquata, Leach, Syst. Cat. M. & B. Brit. Mus. 1816, p. 26.

Columba pinetorum, C. L. Brehm, Vög. Deutschl. 1831, p. 488.

Palumbus torquatus, Bp. Cat. Parzud. 1856, p. 9; id. Icon. Fig. 1857, pl. 57 (good); Gould, B. Gt. Brit. iv. 1873, pl. 1 (good).

Palumbus excelsus, Bp. Compt. Rend. xliii. 1856, pp. 836, 948.

Columba trocaz, Morel (nec Hein.), Hist. Nat. Açor. 1860, p. 84.

Entire head and upper throat leaden grey; back and sides of the neck metallic green, with a large white patch on each side of the hind neck; upper back, the greater portion of the wing-coverts, and the secondaries brown, slightly glossed with metallic green and lilac towards the base of the neck; the wing-coverts gradually pass into pearl-grey towards the outer ones, which are very broadly edged on their outer webs with white, forming a large white patch on the wing; bastard wing and primary-coverts brownish black, remainder of the quills dark brown, with white edges to their outer webs; remainder of the back, upper tail-coverts, and tail

pearl-grey, shading into slaty black for about the end quarter of the tail; lower throat and crop deep vinous, slightly glossed on the sides with metallic lilac, gradually fading into white on the abdomen and under tail-coverts; the sides of the body shade into pale pearl-grey; under surface of the wings grey, shading into brown towards the outer webs and ends of the quills; under surface of the tail black, crossed by a broad white bar; iris pale yellow; bill pinkish red, fading into yellow towards the tip; legs red, powdered with white between the scales. Total length 17 inches, culmen 0·9, wing 10, tail 7·2, tarsus 1·2.

Hab. Madeira, Azores, and Mediterranean coast, with the exception of Egypt.

11. PALUMBUS TROCAZ.

Columba trocaz, Heineken in Brewster's Journ. 1829, p. 228, Madeira; Jard. & Selby, Ill. Orn. 1825-1839, pl. 98 (bad); Vernon Harcourt, P. Z. S. 1851, p. 142; id. Ann. & Mag. Nat. Hist. xii. 1853, p. 58; A. Newton, Ibis, 1863, p. 186; Godman, Ibis, 1872, p. 214; Dresser, B. Eur. vii. 1875, p. 33, pl. 461 (good).

Columba laurivora, Webb & Berthelot, Orn. Can. 1836-1844, p. 26, pl. 3 (top fig.).

Trocaza trocaz, Bp. Compt. Rend. xxxix. 1854, p. 1104.

Trocaza bouvryi, Bp. Compt. Rend. xliii. 1856, pp. 837, 948, "Morocco"!; id. Icon. Pig. 1857, pl. 70.

"Head and neck slaty dove-blue, feathers on the hind neck and sides of the neck tipped with light silvery or French grey; back and lesser wing-coverts dark plumbeous slate on the fore part of the back and hind neck, glossed with purple and green; rump rather bluer than the rest of the upper parts; quills blackish, some of the primaries with a narrow greyish-blue margin, the inner secondaries tinged with slate; primary-coverts dove-blue; tail dark plumbeous slate, crossed by a broad subterminal dove-blue band; breast vinous red; rest of the underparts slaty blue; bill and space round the eye coral-red, the former tipped with blackish; iris straw-colour; legs coral-red; claws black. Total length about 16 inches,

culmen 1·0, gape 1·2, wing 9·2, tail 7·4, tarsus 1·38, middle toe with claw 2·0." (*Dresser.*)

Hab. Madeira.

This species appears entirely confined to the island of Madeira, and the locality Morocco assigned to it by Bonaparte is undoubtedly an error.

As this and the next two species do not belong to the African region, I have thought it sufficient here to quote Mr. Dresser's descriptions (*B. Eur. vii.*), where the three species are also well figured.

12. *PALUMBUS BOLLII.*

? *Columba bouvryi*, Bolle (*nec Bp.*), *J. f. O.* 1857, p. 329.

Columba bollii, Godman, *Ibis*, 1872, p. 217; Dresser, *B. Eur. vii.* 1875, p. 29, pl. 459 (good).

"Head, neck, and centre of the back dark dove-blue with a slaty tinge; sides of the neck and hind neck glossed with green, a small portion of the feathers on the sides of the neck tipped with coppery red, fore part of the back extending to the sides of the back richly glossed with reddish purple, the hind crown being also slightly glossed with this colour; upper parts dark plumbeous slate, bluer on the rump; quills blackish; tail blackish, broadly subterminating with dark dove-blue, and finally tipped with dusky slate; throat down to the breast slaty blue, slightly glossed with green; breast and abdomen deep vinous, almost coppery red; flanks and lower abdomen, with the under tail-coverts, deep bluish slate; bill red, darker at the tip; legs coral-red; iris straw-colour; edge round the eye coral-red. Total length about 14·5 inches, culmen 1·0, gape 1·1, wing 8·2, tail 6·2, tarsus 1·2, middle toe with claw 1·5." (*Dresser.*)

Hab. Teneriffe.

13. *PALUMBUS LAURIVORUS.*

Columba laurivora, Webb & Berthelot, *Orn. Can.* 1836-1844, p. 26, pl. 3, lower fig.; Prévost & Knip, *Pig. ii.* 1808-1838, p. 79, pl. 43 (very bad); Bolle, *J. f. O.* 1855, p. 171, 1857, p. 324; Godman, *Ibis*, 1872, p. 216; Dresser, *B. Eur. vii.* 1875, p. 31, pl. 460 (good).

Trocaza laurivora, Bp. Icon. Pig. 1857, pl. 69; id. Compt. Rend. xliii. 1857, pp. 837, 948.

"Head, neck, and back dull dove-slate, crown and nape glossed with green; sides of the neck glossed with purplish red and green; upper surface of the wings slate, with a brownish tinge; quills dull dark brown; tail dull brownish ashy grey, much paler than in *C. bollii*, on the central portion gradually becoming paler until the tip is light grey; on the under surface of the tail the terminal portion is whitish; feathers on the throat reddish at the base and tipped with greenish; rest of the underparts coppery red, the under tail-coverts only being dull slaty blue; bill red, darker at the tip; legs coral-red; iris straw-colour. Total length 14.5 inches, culmen 1.2, wing 8.6, tail 6.2, tarsus 1.5, middle toe with claw 1.82." (*Dresser*.)

Hab. Canary Islands.

IV. TURTURÆNA.

<i>Turturæna</i> , Bp. Compt. Rend. xxxix. 1854,	Type.
p. 1104	<i>T. delegorguii</i> .
<i>Pelecanas</i> , Reichb. Taub. 1855, p. 54 . . .	<i>T. delegorguei</i> .

In size and general appearance these birds much resemble *Aplopelia*; but in the present genus the back and wings are slate-colour, occasionally partially washed with chestnut. From the relative proportions of the primaries, and from the shortness of the tarsi, they more nearly approach *Palumbus*. To this genus I shall refer three species, all very rare in collections:—*T. delegorguii*, which is only known from Natal, and *T. malherbii* and *T. iriditorques*, confined to West Africa.

Key to the Species.

- a. With the upper portion of the front of the tarsus feathered close to the knee-joint. Sexes very dissimilar.
 - a¹. With a broad white collar at the junction of the back of the neck and mantle 14. *delegorguii* ♂.
 - o¹. With no white collar *delegorguii* ♀.

b. With the tarsi entirely naked ; under tail-coverts brown. Sexes similar.

b¹. Chest grey ; under tail-coverts sandy brown . . 15. *malherbii*.

c¹. Chest and under tail-coverts deep rufous 16. *iriditorques*.

14. *TURTURÆNA DELEGORGUII*.

Columba delegorguei, Delegorgue, Voy. Afr. Austr. ii. 1847, p. 615, Port Natal ; Verr. Rev. et Mag. Zool. 1851, p. 514 ; Gurney, Ibis, 1864, p. 354, Natal ; Layard, B. S. Afr. 1867, p. 257.

Columba johannæ, Verr. MS. 1851 ; Bp. Compt. Rend. xxxix. 1854, p. 1104.

Columba lunigera, Gray, MS. Brit. Mus. 1854 ; Bp. Compt. Rend. xxxix. 1854, p. 1104.

Turturæna delegorguii, Bp. Compt. Rend. xxxix. 1854, p. 1104 ; id. Consp. Gen. Av. ii. 1857, p. 45.

Peleiaenas delegorguei, Reichb. Taub. 1855, p. 54.

Male adult. Head and neck deep slate-colour, only very slightly paler towards the forehead and chin ; back of the head and back and sides of the neck very strongly glossed with metallic amethyst-lilac, with reflections of green in certain lights ; this same gloss extends onto the front of the neck, from the middle throat onto the upper chest, but is far less intense, only being visible in certain lights, and finally disappears altogether on the lower chest ; the back of the neck is separated from the mantle by a broad white collar extending from shoulder to shoulder ; remainder of the upper parts slaty black, shading into chestnut on the upper back, wing-coverts, and portion of the inner secondaries ; the edges of the feathers of the upper back are faintly glossed towards their edges with metallic lilac and green ; the tail has a narrow pale end, most perceptible from beneath. Under surface—crop and chest vinous, shading into slate-colour on the sides of the body, abdomen, and under wing and tail-coverts ; towards the junction of the vinous and slate-colours the feathers become freckled with the two colours, and the ends of some of the under tail-coverts are also somewhat freckled with vinous ; end portion of the bill yellow, basal portion dark ; legs yellow. Total length 12·5 inches, culmen

0·75, wing 7·3, tail 4·6, tarsus 0·9. "Iris dark brown; bill ash; bare skin round the eye, and also the tarsi and feet, dark pink" (*T. Ayres*, *Ibis*, 1864, p. 354).

Female adult. Forehead, front of the crown, cheeks, ear-coverts, and entire underparts grey, freckled or vermiculated with buff; chin and front half of the head, pale grey, gradually deepening into slate-colour towards the lower breast; under tail-coverts uniform slate-colour, with almost imperceptibly paler edges; the vermiculations on the lower throat and chest are shaded with vinous; remainder of the crown, nape, and back of neck cinnamon, glossed towards the latter part with metallic lilac, shaded with green in certain lights; remainder of the upper parts slaty black, quills slightly browner; the metallic lustre of the hind neck extends for a short distance onto the upper back in lilac or green reflections according to the light; the remainder of the feathers of the upper back and many of the wing-coverts have a barely perceptible chestnut edging to the feathers; the tail has a narrow pale end, most perceptible from beneath; under wing-coverts deep slate-colour; "iris dull red; end portion of the bill yellow, basal portion dark purple; legs flesh-colour" (*T. L. Ayres*). Total length 10·5 inches, culmen 0·65; wing 6·5, tail 4·8, tarsus 0·9.

Hab. Natal.

The male I have described from the type of *Columba lunigera*, Gray, in the British Museum, and the female from a fine specimen in my own cabinet, collected by Mr. T. L. Ayres at Durban, who writes, "This is the only specimen I have shot. It was feeding upon mulberries in a garden on the Berca. My cousin shot two a few days before at the same place in October."

I know of no other species of African Pigeon, excepting *Cœna capensis*, in which the sexes differ so much as in the present instance; but that they are mere sexual differences, I think Monsieur Delegorgue, in his original description, places beyond a doubt. This species has not yet been figured.

15. *TURTURÆNA MALHERBII*.

Columba malherbii, Verr. Rev. et Mag. Zool. 1851, p. 514, Gaboon; Gray, List Brit. Mus. Columb. 1856, p. 30; Hartl. Orn. W.-Afr. 1857, p. 194; Cass. Proc. Ac. Nat. Sc. Phil. 1859, p. 143, Camma river; Hartl. J. f. O. 1861, p. 266.

Turturæna malherbii, Bp. Compt. Rend. xxxix. 1854, p. 1104; id. Consp. Gen. Av. ii. 1857, p. 46.

Peleiaenas malherbii, Reichb. Taub. 1855, p. 54.

Columba chalcauchenia, Gray, List Brit. Mus. Columb. 1856, p. 30, Gaboon.

Turturæna chalcauchia, Bp. Compt. Rend. xliii. 1858, p. 837.

General colouring—head, neck, and underparts ashy grey; under tail-coverts sandy brown, under surface of the tail partially washed with that colour; back, wings, and tail blackish slate-colour; the inner webs of most of the tail-feathers partially washed with a sandy-brown shade; the back half of the head and the back and sides of the neck are brilliantly glossed with metallic amethyst-lilac, throwing off green reflections in certain lights; similar metallic shades of less intensity extend onto the cheeks, lower throat, crop, and upper portion of the mantle; “bill leaden grey, with the cere bright yellow, legs yellow” (*Verr.*). Total length 11·5 inches, culmen 0·65; wing 6·8, tail 4·5, tarsus 0·9.

Hab. Gaboon.

The specimen here described is mounted in the British Museum, and was collected in Gaboon.

This species has only been met with in the district of Gaboon.

16. *TURTURÆNA IRIDITORQUES*.

Columba iriditorques, Cass. Pr. Ac. Nat. Sc. Philad. 1856, p. 254, St. Paul's river, Moonda river; Hartl. Orn. W.-Afr. 1857, p. 267; Cass. Pr. Ac. Nat. Sc. Philad. 1859, p. 143; Schl. Mus. P.-B. iv. 1873, p. 69.

Turturæna, sp.? Bocage, Jorn. Lisb. 1869, p. 144, St. Thomas Is.

Forehead, chin, and throat pale grey, shading into leaden

grey on the crown and sides of the neck; cheeks and ear-coverts washed with chestnut-brown; back of the head and nape dark grey mixed with cinnamon, with a strong metallic green gloss, slightly varied with lilac and copper; back of the neck cinnamon, glossed with copper and metallic lilac; remainder of the upper parts slaty black, partially glossed with metallic green, tinged with lilac and violet according to the light, excepting on the quills and tail; the metallic gloss is strongest on the upper back, which, in some lights, is entirely metallic lilac, and in others green; tail, two centre feathers uniform slaty black, the others broadly tipped with rufous-buff, passing into chestnut towards the shafts, and this chestnut-colour extends for some distance down the inner webs of the feathers and gradually mingles with the slaty black of the remainder of the feathers; the edges of the feathers towards the tip are powdered with slate-colour; breast rufous, very slightly glossed towards the crop with metallic lilac, and with the bases of the feathers and fine vermiculation of slaty grey; abdomen and under tail-coverts uniform rufous; the flanks are more strongly shaded with slate-colour than the centre of the breast; under wing-coverts slate-colour; the end portion of the bill yellow, the basal portion dark; legs yellow. Total length 9·4 inches; culmen 0·6, wing 6·2, tail 3·8, tarsus 0·7.

Hab. W. Africa.

This species ranges from Gaboon to the Gold Coast, and occurs on the island of St. Thomas.

The specimen here described was collected for me at Abouri, on the Gold Coast, about thirty miles inland from Accra. It agrees well with Mr. Cassin's description of the type, but is slightly smaller, and is probably a female.

V. HAPLOPELIA.

Type.

Aplopelia, Bp. *Compt. Rend.* xxxix. 1854,

p. 1104. *A. larvata*.

Haplopeleia, Reichb. Taub. 1855, p. 76 . . . *A. larvata*.

As in the synonymy we find members of this genus re-

ferred to *Peristera*, Swains., and *Leptoptila*, Swains., I may here mention that *Peristera* differs from all the African forms in the hind toe not being more than half the length of the middle one. *Leptoptila* differs from all excepting *Tympanistria* and *Geopelia* in having the first primary sulcated.

Besides the characters already given for this genus, its members may be readily distinguished from those of *Turturæna* by the back and wings being always brown.

I shall only recognize three species as belonging to this genus, *H. larvata*, *H. principalis*, and *H. simplex*, being of opinion that *H. bronzina* (Rüpp.), from N.E. Africa, should not be separated from *H. larvata* (Temm.) of S. Africa. But I cannot write with any authority upon the species belonging to this genus, having only seen South-African specimens of *H. larvata*, and consequently, with regard to *H. principalis* and *H. simplex*, I have been obliged to quote Dr. Hartlaub's descriptions.

Key to the Species.

- a. Entire front half of the head white; breast and under tail-coverts rufous 17. *larvata*.
- b. Forehead not white; breast and under tail-coverts not rufous.
 - b¹. Under tail-coverts not white 18. *principalis*.
 - c¹. Under tail-coverts white 19. *simplex*.

17. HAPLOPELIA LARVATA.

La Tourterelle à masque blanc, Levaill. Ois. d'Afr. vi. 1808, p. 80, pl. 269.

Columba larvata, Temm. & Knip, Fig. i. 1808-1838, p. 71, pl. 31; id. Hist. Fig. et Gall. 1813, pp. 266, 471.

Peristera larvata, Selby, Nat. Libr. v. 1835, p. 211, pl. 26 (very bad); Layard, B. S. Afr. 1867, p. 263; Gurney, Ibis, 1868, p. 47, Natal; Shelley, Ibis, 1875, p. 84, Durban; Woodward, Zoologist, 1875, p. 4617, Natal; Barratt, Ibis, 1876, p. 208, Macomac; Ayres, tom. cit. p. 433, Lydenburg.

Columba sylvestris, Forst. (nec Vieill.) Descr. An. 1844, p. 52, Cape.

Aplopeleia larvata, Bp. Compt. Rend. xl. 1855, p. 18 ; id. Consp. Gen. Av. ii. 1857, p. 66 ; Holub & von Pelz. Beitr. Orn. Sudafr. 1882, p. 176.

Haplopeleia larvata, Reichb. Taub. 1855, p. 76, pl. 258. fig. 1434.

Haplopeleia erythrogastra, Reichb. tom. cit. pp. 77, 176, Suppl. pl. 3. fig. 28.

Leptoptila larvata, Schl. Mus. P.-B. iv. 1873, p. 161.

From N.E. Africa.

Columba bronzina, Rüpp. Neue Wirb. 1835, p. 65, pl. 23. fig. 1, Abyssinia ; DesMurs in Zelebor's Voy. Abyss. 1845, p. 141.

Turtur bronzinus, Rüpp. Syst. Uebers. 1845, p. 100.

Aplopeleia bronzina, Bp. Compt. Rend. xl. 1855, p. 18 ; id. Consp. Gen. Av. ii. 1857, p. 66 ; Heugl. Orn. N.O.-Afr. 1871, p. 844.

Haplopeleia bronzina, Reichb. Taub. 1855, p. 77, pl. 258. fig. 1440.

Haplopeleia chalcea, Finsch in Heugl. Orn. N.O.-Afr. App. 1875, p. 171.

Front half of the head and upper throat white ; the cheeks and ear-coverts white, faintly tinted with vinous ash ; remainder of the head and the neck vinous shaded rufous, strongly glossed with metallic shades of green and copper, changing to lilac in certain lights ; interscapular region slate-colour, with broad metallic edges to the feathers of green, passing in certain lights into lilac ; remainder of the back, wings, and two centre tail-feathers brown, with a very slight green gloss ; some of the outer primaries with very narrow partial white edges ; remainder of the tail brownish black, with the ends of the feathers deep grey for about one inch, underneath black and ashy white ; under surface of the body rufous, with a vinous shade on the chest, and slightly glossed with the same metallic shades as the neck, and passing into dusky brown on the sides of the body ; under wing-coverts and under surface of the quills dark brown, the latter rather paler towards the basal portion of their inner

edges; iris deep lilac; bill black; bare skin round the eye and the legs red. Length 10·5 inches, culmen 0·65, wing 5·9, tail 4·2, tarsus 1.

Hab. S. and N.E. Africa.

My description is taken from a male specimen collected by myself at Durban.

I have followed Prof. Schlegel (Mus. P.-B. iv. p. 161) in uniting the N.E.-African *Columba bronzina*, Rüpp., with the S.-African *C. larvata*, Temm., as I cannot find any character in the description of *C. bronzina* to warrant its separation; but not having had an opportunity of examining a specimen from N.E. Africa, I have kept their synonymy separate.

This species is not uncommon in the bush from the Cape to the Transvaal; but we have no record of it from the west coast north of the Orange river. In N.E. Africa it appears to be confined to Abyssinia, and to be very rare.

18. HAPLOPELIA PRINCIPALIS.

Peristera principalis, Hartl. P. Z. S. 1866, p. 330, Prince's Island.

"Supra brunnea, nitore cupreo-rubente et virescente; sinuipite cano; nucha vinaceo-purpurascens; remigibus fuscis, 2^o-5^m valde emarginatis; subalaribus ardesiacis; mento niveo; pectore vinaceo-rubente; abdomine sensim albicante; subcaudalibus canis; colli lateribus læte rubentibus, rectricibus; 2 mediis exceptis, nigris, apice late et dilute cinereis; rostro nigro, pedibus nitide rubris. Long. 0·26, rostr. a fr. 0·018, alæ 0·156, caudæ 0·08, tars. 0·03 m." (Hartl. P. Z. S. 1866, p. 330.)

Hab. Prince's Island.

I have given Dr. Hartlaub's original description, as I have not seen the type, which I believe to be unique.

19. HAPLOPELIA SIMPLEX.

Turtur simplex, Hartl. Rev. et Mag. Zool. 1849, p. 497, St. Thomas Is.; id. Abhandl. nat. Vereins Bremen, ii. 1852, p. 37, pl. 10; id. J. f. O. 1854, p. 207.

Aplopelia simplex, Bp. Compt. Rend. xl. 1855, p. 18; Hartl. J. f. O. 1861, p. 266.

Haplopeleia simplex, Reichb. Taub. 1855, p. 78, pl. 266. figs. 2872, 2873.

Peristera simplex, Hartl. Orn. W.-Afr. 1857, p. 196.

"Supra olivaceo-brunnescens, subtus pallidior, flavescenti-brunnea; gula, abdomine medio, crisso et subcaudalibus albis; fronte et sincipite dilute canis; pileo, collo toto et interscapulis nitore columbino-purpurascens, sub certa luce smaragdino-micantibus; remigibus primariis albo limbatis; subalaribus fuscis; rectricibus mediis dorso concoloribus, reliquis late cinereo terminatis; rostro nigro, pedibus rubentibus. Long. $11\frac{1}{2}$ ", rostr. 7", al. 5" 9", tars. 10". (Hartl. Orn. W.-Afr. p. 196).

Hab. St. Thomas Island, W. Afr.

This rare bird is only known to me by the description and figure.

VI. TURTUR.

Type.

Peristera, Boie, 1828, nec Swains. 1827. *T. communis*.

Turtur, Selby, Nat. Libr. v. 1835, p. 169 *T. communis*.

Streptopelia, Bp. Compt. Rend. xl. 1855,

p. 17 *T. semitorquatus*.

I shall here consider the genus *Turtur* as represented by fifteen species. One of these, *T. risorius*, only occurs within my limits as a native of Palestine. Two others, *T. communis* and *T. senegalensis*, are included in Mr. Dresser's 'Birds of Europe,' and belong also to the Asiatic as well as the Western Palearctic Regions. Four, *T. picturatus*, *T. aldabranus*, *T. comorensis*, and *T. rostratus*, are confined to the islands of the Indian Ocean, which I include in the Ethiopian Region.

T. erythrocephalus is only known by a single specimen in the British Museum labelled "Cape of Good Hope." This part of Africa has been so well worked that, if the locality is correct, it appears most surprising that the specimen should have remained unique; and the only way I can account for it is by supposing *T. erythrocephalus* to be a hybrid cage-bird, for it is strikingly intermediate in plumage between *T. lugens* and *T. isabellinus*, both from E. Africa, only with a more vinous shade. The remaining five, *T. semitorquatus*, *T. decipiens*, *T. roseogriseus*, *T. vinaceus*, and *T. capicola*, belong

to the group of Collared Turtle Doves represented in Europe by *T. risorius* and our common cage-bird *T. roseogriseus*. The members of this group, from their somewhat general similar appearance, have been the cause of much confusion in our nomenclature, yet each of these species has a well-marked character by which they may be readily distinguished, and cannot, I think, be regarded as mere local races.

Key to the Species.

- a.* With some grey on the wings; wing-coverts never chestnut nor vinous brown.
 - a*¹. Wings mottled; many of the scapulars and wing-coverts with their centres darker than their edges; collar confined to the sides of the neck. Group 1. **TURTURES.**
 - a*². Tail-feathers with broad white ends; under tail-coverts white.
 - a*³. Crown grey; upper parts shaded with grey. 20. *communis*.
 - b*³. Entire head sandy brown; upper parts not shaded with grey 21. *isabellinus*.
 - b*². Tail-feathers with narrower white ends; under tail-coverts grey.
 - b*³. Lower breast vinous, fading apparently into white on the vent; under tail-coverts pale grey 22. *erythrocephalus*.
 - c*³. Lower breast, vent, and under tail-coverts leaden grey. 23. *lugens*.
- b*¹. Wings not mottled by dark centres to any of the feathers; collar not confined to the sides of the neck.
 - b*². With a well-marked black collar round the back and sides of the neck Group 2. **STREPTOPELLÆ.**
 - b*³. With no black feathers in front of the eye.
 - b*⁴. Bill larger; with grey on the head; under wing-coverts slaty or leaden grey; under surface of the quills uniform dark brown Section A.
 - b*⁵. Entire abdomen and under tail-coverts deep leaden grey; chest of a deeper vinous shade 24. *semitorquatus*.
 - c*⁴. Centre of the abdomen and vent white; remainder of the abdomen

- and the under tail-coverts pale grey, the latter broadly edged with white 25. *decipiens*.
- c*¹. Bill smaller; with no grey on the head; under wing-coverts ashy white; under surface of the quills brown, with the basal portion of their inner webs ashy white Section B.
- c*⁵. Abdomen and under tail-coverts uniform grey 26. *risorius*.
- d*⁵. Abdomen and under tail-coverts white 27. *roseogriseus*.
- c*³. With a narrow black band from the eye to the lores; under tail-coverts white; under wing-coverts leaden grey; under surface of the quills uniform dark brown Section C.
- c*⁴. Smaller, wing 5·5 inches; crown vinous, with only a slight grey shade on the occiput; vinous shade of the head, neck, and breast deeper, and extending further onto the abdomen, which is pinkish white 28. *vinaceus*.
- d*⁴. Larger, wing 6 inches; crown grey; vinous shade of the head, neck, and breast not so deep; abdomen pure white, which colour extends further onto the chest 29. *capicola*.
- c*². With a mottled collar on the front and sides of the throat, formed by the feathers of those parts being black, broadly tipped with fawn-colour Group 3. MACULICOLLES.
30. *senegalensis*.
- b*. With no grey on the wings; wings entirely brown; wing-coverts chestnut or vinous brown; under tail-coverts white Group 4. INSULARES.
- b*¹. Head and rump grey; two centre tail-feathers brown 31. *picturatus*.
- c*¹. Head, rump, and two centre tail-feathers brown.
- c*². Wing 5·75 inches 32. *aldabranus*.
- d*². Wing 6·7 inches 33. *comorensis*.
- d*¹. Head brown; rump and two centre tail-feathers grey 34. *rostratus*.

20. *TURTUR COMMUNIS.*

Columba turtur, Linn. S. N. i. 1766, p. 284; Temm. & Knip, Fig. i. p. 89, pl. 42 (fair); Rüpp. N. W. 1835-1840, p. 67; Gould, B. Eur. iv. 1837, pl. 246 (good); Vernon Harcourt, P. Z. S. 1851, p. 146, Madeira; Buvry, J. f. O. 1857, pp. 67, 195, Algeria; Bolle, tom. cit. p. 266, Canaries.

Peristera turtur, Boie, Isis, 1828, p. 327.

? *Peristera tenera*, C. L. Brehm, Vög. Deutschl. 1831, p. 494.

Turtur communis, Selby, Nat. Libr. v. 1835, p. 171; B.O.U. List Brit. B. 1883, p. 139.

Turtur vulgaris, Eyton, Cat. Brit. B. 1836, p. 32; Drake, Ibis, 1869, p. 153, Morocco; Dresser, B. Eur. vii. 1876, p. 39, pl. 462 (good); Danford, Ibis, 1878, p. 27, Asia Minor.

Turtur auritus, Rüpp. Syst. Uebers. 1845, p. 100; Tristram, Ibis, 1859, p. 35, Palestine; Salvin, Ibis, 1859, p. 318, E. Atlas; Hartl. J. f. O. 1861, p. 266, "Gaboon"!; Hartm. J. f. O. 1863, pp. 303, 308, 315; Tristram, P. Z. S. 1864, p. 448, Palestine; Allen, Ibis, 1864, p. 239, Egypt; Tristram, Ibis, 1865, p. 77, 1868, p. 210, Palestine; Shelley, Ibis, 1871, p. 142, Egypt; Gurney, tom. cit. pp. 295, 300, Algeria; Heugl. Orn. N.O.-Afr. 1871-1875, p. 839, App. p. 169; Shelley, B. Egypt, 1872, p. 214, pl. 10. fig. 1; Gould, B. Gt. Brit. iv. 1873, pl. 4.

Turtur migratorius, Sclat. Contr. Orn. 1852, p. 126, Mokkollo and Moses's Well.

Turtur risorius, Tristram, Ibis, 1860, p. 69, Algeria.

Upper half of the head and back of the neck grey, passing into pale vinous pink on the sides of the head, throat, and chest; feathers on the sides of the neck black, with white tips, often tinted with grey, forming a partial collar, composed of oblique stripes of black and white; upper back greyish brown, with the edges of the feathers partially washed with fawn-colour; lower back and upper tail-coverts grey, partially washed with fawn-colour on the edges of some of the feathers; two centre tail-feathers slaty brown; remainder of the tail slaty black for about three quarters of its length, with the end quarter and the entire outer webs of

the exterior feathers white; scapulars, inner half of the wing-coverts, and the innermost secondaries slaty black, with broad fawn-coloured edges; remainder of the wing-coverts leaden grey; the bastard wing and primary-coverts blackish brown, slightly washed with grey; quills blackish brown, faintly washed with grey, and with very narrow pale edges; chest pale vinous pink, fading into white down the middle of the breast; abdomen and under tail-coverts white; sides of the body and under wing-coverts leaden grey; under surface of the quills ashy brown; iris brownish red; bill vinous-shaded slate-colour; legs red. Total length 10·10 inches, culmen 0·7, wing 7, tail 5, tarsus 0·9.

Hab. The Canaries, Madeira, coasts of the Mediterranean and Red Sea, and the Nile valley southward to 10° N. lat.

This species is not, I believe, a native of any part of the West-African subregion south of Senegal; and I think there must be an error in recording this species from the Gaboon on the authority of M. A. Lecompte (J. f. O. 1861, p. 266).

21. *TURTUR ISABELLINUS.*

? *Peristera rufodorsalis*, C. L. Brehm, Vogelf. 1855, p. 257.

Turtur isabellinus, Bp. Compt. Rend. xliii. 1856, pp. 942, 949; id. Icon. Fig. 1857, pl. 102 (very bad); Heugl. Orn. N.O.-Afr. 1875, App. p. 170; Dresser, B. Eur. vii. 1877, p. 49, pl. 464. fig. 1; Taylor, Ibis, 1878, p. 372.

Turtur auritus, Antin. Cat. 1864, p. 91, Aboo-Simbel; Antin. & Salvad. Viagg. Bogos, 1873, p. 130, Assus; Taylor, Ibis, 1867, p. 67, Egypt.

Turtur sharpei, Shelley, Ibis, 1870, p. 447, Egypt; Heugl. Orn. N.O.-Afr. 1871, p. 851; Shelley, B. Egypt, 1872, p. 215, pl. 10. fig. 2 (good).

Turtur turturoides, Württ. MS. Icon. ined. p. 67, fide Heugl. Orn. N.O.-Afr. 1875, App. p. 170.

Very similar to *T. communis*, but differs as follows:—Entire head and back of the neck sandy brown, passing into fawn-colour on the upper back; chin and centre of the throat slightly paler; lower back fawn-colour, with dusky centres to the feathers and only very slightly washed with grey on

the middle back and sides of the rump; greater upper tail-coverts and two centre tail-feathers dusky brown, broadly tipped with fawn-colour; remainder of the tail as in *T. communis*, only that the white end is partially washed with fawn-colour towards the centre feathers; wing as in *T. communis*, only there is a less extent of leaden grey on the coverts, and there is no grey shade on the quills; the sandy brown of the sides of the head and upper throat gradually passes into rich vinous pink, occasionally with a sandy shade on the sides and lower throat; remainder as in *T. communis*. Total length 10·8 inches, culmen 0·7, wing 6, tail 5, tarsus 0·8.

Hab. N.E. Africa.

The range of this species is, as yet, very badly defined. It is probably migratory throughout Egypt, where I have found it, however, breeding as far north as Damietta. It inhabits Nubia and Bogos Land, but I cannot trace its range further south. My description is taken from a specimen collected by myself in Egypt.

22. *TURTUR ERYTHROCEPHALUS*.

Turtur erythrocephalus, G. R. Gray, MS. 1854, in Brit. Mus.; Reichb. Taub. 1855, p. 69; Bp. Compt. Rend. xl. 1855, p. 16, xliii. 1856, p. 942; Gray, List Brit. Mus. Columb. 1856, p. 41; Bp. Consp. Gen. Av. ii. 1857, p. 60; Schl. Mus. P.-B. iv. 1873, p. 118.

Intermediate between *Turtur isabellinus*, Bp., and *Turtur lugens*, Rüpp. Head and throat darker and more vinous than in *T. isabellinus*, but with a similar black and white partial collar; back and upper tail-coverts slaty grey, with the feathers of the upper half of the interscapular region broadly edged with vinous fawn-colour; wings as in *T. isabellinus*, only the fawn-coloured parts are slightly redder and the pale margins to the feathers not quite so wide; tail-coverts slightly tinted with brown towards their extremities; tail above, two centre feathers brownish slate-colour, remainder of the tail slate-colour, with a narrow whitish edge, and the feathers fading into greyish white on about half an inch of their ends; throat and entire chest vinous red, with scarcely

any pink shade, fading into sandy white towards the chin, and almost into white on the vent ; under tail-coverts greyish white ; flanks grey ; under wing-coverts dark leaden grey. Total length 10·8 inches, culmen 0·65, wing 6·7, tail about 5·2, tarsus 0·9.

Type. Cape of Good Hope (G. Campbell).

In its head, neck, wings, and front of the chest this species agrees well with *T. isabellinus*, with the exception of its slightly darker and more vinous shade. In its middle and lower back, upper tail-coverts, and tail it agrees perfectly with *T. lugens*. From both it differs in the deep vinous shade of the lower breast and in the under tail-coverts being pale greyish white.

The only known specimen, in the British Museum, is mounted and not in good condition, so that one cannot examine as closely into details as one might wish ; but I cannot detect it to be a made-up bird. I must therefore admit this as a good species ; but if really from the Cape of Good Hope, it appears incredible that the specimen should have so long remained unique.

23. TURTUR LUGENS.

Columba lugens, Rüpp. N. W. 1835-1840, p. 64, pl. 22. fig. 2, Dongola, Egypt ; DesMurs, in Lefebv. Voy. Abyss. Ois. 1845-1850, p. 141 ; Finsch & Jesse, Trans. Z. S. vii. 1869, p. 289, Taconda Pass.

Turtur lugens, Rüpp. Syst. Uebers. 1845, p. 100, Abyssinia ; Blanf. Geol. & Zool. Abyss. 1870, p. 416 ; Heugl. Orn. N.O.-Afr. 1871-1875, p. 838, App. p. 169 ; Shelley, P. Z. S. 1881, p. 596, Pangani.

Streptopelia lugens, Reichb. Taub. 1855, p. 73, pl. 248. fig. 1372.

Peristera lugens, C. L. Brehm, Vogelf. 1855, p. 258.

Upper half of the head and back of the neck slaty grey, paler on the forehead, and passing into vinous shaded grey on the sides of the head, throat, and chest ; a patch of feathers on the sides of the neck black, with slaty grey edges, forming a rather obscurely marked partial collar ; back,

upper tail-coverts, and tail slaty brown, washed with grey on the sides of the rump, and shading into slaty black toward the outer tail-feathers, which have very narrow ashy edges; all but the two centre tail-feathers have narrow ashy ends, about 0·4 inch in width; under surface of the tail black and ashy white; wings dark brown, the inner half of the wing-coverts washed towards their edges with paler brown, often partially tinted with rufous; outer half of the wing-coverts, with the exception of the bastard wing and primary-coverts, washed with slaty grey, some of the inner greater coverts and inner secondaries are broadly edged with rufous, which produces a striking character in this species; the primaries have narrow pale edges, almost white; entire underparts slaty grey, with the exception of the chin, centre of the upper throat, and front of the chest, which either fade into vinous buff, or are more or less washed with that colour; under surface of the quills uniform brown; iris orange; bill vinous-shaded slate-colour; legs red. Total length 10·9 inches, culmen 0·7, wing 6·8, tail 4·6, tarsus 0·9.

Hab. E. Africa.

This species ranges from Abyssinia to Mamboio, about 7° S. lat., whence I have recently received a specimen from Sir John Kirk. Rüppell's specimens were from the highlands of Abyssinia.

My description is taken from a specimen collected for me by Sir John Kirk near Pangani. A good figure of this species accompanies Rüppell's original description.

24. TURTUR SEMITORQUATUS.

Columba semitorquata, Rüpp. Neue Wirb. Vög. 1835, p. 66, pl. 23. fig. 2 (fair), Abyssinia.

Turtur erythrophrys, Swains. B. W. Afr. ii. 1837, p. 207, pl. 22 (fair); Hartl. Orn. W.-Afr. 1857, p. 195, Gambia, Ashantee, Gaboon; Cass. Pr. Philad. Acad. 1859, p. 143, Gaboon; Gurney, Ibis, 1862, p. 152, Natal; Monteiro, P. Z. S. 1865, p. 94, Angola; Hartl. P. Z. S. 1867, p. 827, Zanzibar; Chapman, Trav. S. Afr. ii. 1868, App. p. 411;

Cab. v. d. Decken's Reisen, iii. 1869, p. 42; Sharpe, Ibis, 1870, p. 57, Fantee; id. P. Z. S. 1870, p. 150, Angola; Shelley & Buckley, Ibis, 1872, p. 290, Gold Coast; Sharpe, P. Z. S. 1874, p. 306, Bulama Islands; Cab. J. f. O. 1878, p. 242, Mombas.

Turtur semitorquatus, Rüpp. Syst. Uebers. 1845, p. 100; ? Allen & Thomps. Exp. Niger, ii. 1848, p. 41, Rollas Is.; ? Gordon, Contr. Orn. 1849, p. 12; ? Kirk, Ibis, 1864, p. 330, Zambesi; Finsch, J. f. O. 1869, p. 336; Finsch & Jesse, Trans. Z. S. vii. p. 327, Abyssinia; Blanf. Geol. & Zool. Abyss. 1870, p. 416; Finsch & Hartl. Vög. Ostaf. 1870, p. 541; Sharpe, Ibis, 1870, p. 486, Volta river; Heugl. Orn. N.O.-Afr. 1871-1875, p. 830, App. p. 169; Reichenow, J. f. O. 1872, p. 213, Accra, 1874, p. 388, Camaroons, 1877, p. 13, Loango coast; Hartl. Vög. Madag. 1877, p. 271 (pt. descr. nec hab.); Fischer & Reichenow, J. f. O. 1878, pp. 250, 292, Zanzibar; Fischer, J. f. O. 1879, pp. 300, 303, E. Afr.; Bocage, Orn. Angola, 1881, p. 383; Hartl. Abhandl. nat. Vereins Bremen, vii. 1881, p. 117, Lado; Shelley, P. Z. S. 1881, p. 596, Dar-es-Salaam; id. Ibis, 1882, p. 259, Matabele; Holub and von Pelz. Beitr. Orn. Sudafr. 1882, p. 175.

Streptopelia erythrophrys, Bp. Compt. Rend. 1855, p. 17; Antin. Cat. descr. Ucc. 1864, p. 88, Dongola.

? *Streptopelia gumri*, Reichb. Taub. 1855, p. 73, pl. 247. figs. 1364, 1367.

Peristera semitorquata, C. L. Brehm, Vogelf. 1855, p. 258.

Turtur vinaceus, Layard (nec Gm.), B. S. Afr. 1867, p. 259.

Streptopelia semitorquata, Gurney in Anderss. B. Dam. Ld. 1872, p. 234; Antin. & Salvad. Viagg. Bogos, 1873, p. 131.

Columba levaillanti, Smith, MS.

Crown grey, passing into white on the forehead, and tinted with vinous buff in front and on the sides of the crown; remainder of the head, neck, and chest deep vinous pink, fading into pale vinous buff on the chin and centre of the upper throat; eyelids red; no black feathers in front of the eye; on the back of the neck a broad black collar, partially edged above with grey; back, inner half of the wing-coverts, secondaries, and two centre tail-feathers darkish brown, passing

into deep slate-colour on the remainder of the coverts; the rump washed with slaty grey; bastard wing and primary-coverts brownish black; primaries blackish brown, the quills generally with partial narrow whitish edges; remainder of the tail brownish black for more than the basal three quarters of its length, the end portion being ashy brown, slightly paler towards the tips of the feathers; the outer feathers with a very narrow paler edge to the outer webs; under surface of the tail black and white; the vinous chest passes into leaden grey on the sides, abdomen, thighs, and under tail-coverts, the latter are slightly paler at their edges; under wing-coverts deep slate-colour; under surface of the quills uniform dark brown; "iris bright orange-red; bill black; tarsi and feet dark rose-red" (*T. Ayres*). Total length 11·8 inches, culmen 0·7, wing 7, tail 5·3, tarsus 0·95.

Hab. The whole African continent southward from about 41° N. lat. It has not been obtained either in Madagascar or the Comoro Islands. The *Turtur semitorquatus* of authors from those islands really refers to *T. capicola*. My description is taken from a specimen collected at Accra, on the Gold Coast, by Mr. T. E. Buckley.

I have in my own collection a very curious variety, which I refer to *T. semitorquatus*, labelled "Niger (*Baikie*). It is nearly intermediate between *T. semitorquatus* and *T. decipiens*, and I shall endeavour to point out its characters and relationship to those two species in the following tabular form.

a. Entire abdomen and under tail-coverts uniform deep leaden grey; chest of a deeper vinous shade.

*a*¹. With no shade of grey on the cheeks; forehead white, tinted in front with vinous buff; chin and centre of the upper throat pale vinous pink; upper parts darker; under wing-coverts slaty grey; with barely any white on the upper surface of the tail; white end on the under surface of the outer tail-feather narrower, about 1 inch in width. . 1. *semitorquatus*, typical.

- b¹. With a shade of grey on the cheeks; forehead grey; chin and centre of the upper throat white; upper parts paler; under wing-coverts leaden grey; with a considerable amount of white on the upper surface of the tail towards the end; white on the under surface of the outer tail-feather 1·5 inch in width . . 2. *semitorquatus*, var.
- b. Centre of the abdomen and vent white; remainder of the abdomen and under tail-coverts pearl-grey, the latter broadly edged with white; chest of a paler vinous shade, and with all the characters specified in the above *T. semitorquatus*, var. 3. *decipiens*.

From the above it would appear to me that *T. decipiens* and *T. semitorquatus* may have come from a common origin, at, comparatively speaking, no very remote period; but, so far as my present knowledge goes, it would, I consider, be very wrong not to recognize *T. decipiens* and *T. semitorquatus* as distinct species.

25. TURTUR DECIPIENS.

Columba risoria, Wagl. (nec Linn.) Syst. Av. 1827, sp. 93 (excl. var.).

Streptopelia erythrophrys, Reichb. (nec Swains.) Taub. 1855, p. 73.

Turtur senegalensis, Heugl. (nec Linn.) Syst. Uebers. 1856, p. 50.

Turtur vinaceus, Hartl. (nec Gm.) Orn. W.-Afr. 1857, p. 195, pt.

Turtur risorius, Brehm (nec Linn.), Reis. Habesch, 1863, p. 379.

Turtur erythrophrys, Bocage (nec Swains.), Journ. Lisb. 1867, p. 152.

Turtur decipiens, Finsch & Hartl. Vög. Ostaf. 1870, p. 544; Heugl. Orn. N.O.-Afr. 1871, pp. 832, 837.

Turtur semitorquatus, Württ. (nec Rüpp.) Coll. Mergenth.; Heugl. Orn. N.O.-Afr. App. p. 169.

Turtur, sp., Bocage, Journ. Lisb. 1872, p. 67.

Turtur neglecta, Schl. Mus. P.-B. iv. 1873, p. 122 (ex N.E. Afr. nec var.).

Turtur fallax, Schl. tom. cit. p. 124.

Turtur ambiguus, Bocage, Orn. Angola, 1881, p. 386.

Somewhat similar to *T. semitorquatus*, from which it differs as follows:—Forehead, crown, and sides of the head pearl-grey, fading into white on the chin and centre of the upper throat, and passing into vinous pink on the back of the head and posterior portions of the cheeks; eyelids black; neck and chest vinous pink, paler than in *T. semitorquatus*; the black collar partially edged above with white; the upper parts are much paler, the grey on the wings being pearl-grey; the outer secondaries, rump, and centre tail-feathers partially washed with grey; remainder of the tail slaty black for rather more than the basal half, the end portion being slaty grey, fading into white towards the ends of the feathers, the outer one on each side having a very narrow white edge; the pink of the breast shades into leaden grey on the flanks, paler grey on the thigh-coverts, and into white on the centre of the abdomen and vent; under tail-coverts pearl-grey, broadly edged with white; under wing-coverts leaden grey; under surface of the quills dark brown, with very narrow whitish edges to their inner webs. Total length 13 inches, culmen 0·75, wing 6·5, tail 4·9, tarsus 0·9.

Hab. Upper White Nile, Zambesi, and Benguela.

It is evident that we do not yet know the full range of this species, of which I have examined five specimens. A male and a female collected by Dr. Emin Bey on the Sobat river, which falls into the Nile at about 9° N. lat., betray its northern limit as yet known to me. I have above described the female; but the male is perfectly similar in plumage, excepting that the white end to the outer tail-feather beneath is 1·5 inch deep in the female and 2·1 inches deep in the male. A specimen collected by Hemprich and Ehrenberg, and labelled by them *T. collaris*, is in Mr. Dresser's collection, without a locality. It only differs from the specimen described above in the cheek not being quite so grey; the white end to the outer tail-feather is 2 inches deep. *T. collaris*, Hempr. &

Ehr., seems to be a MS. name; for I cannot find it with a description anywhere.

In the British Museum there are two specimens labelled "Tette (Livingstone Exped.)." The Zambesi is therefore here recorded for the species for the first time.

Professor Barboza du Bocage gives an excellent description of this species under the new title of *T. ambiguus*, from three specimens, two from Danbe and Rio Coroca, in Benguela, the third labelled "Senegal;" but he doubts the correctness of the latter locality. For that reason I have not entered Senegal in its range, although I think it highly probable that this species will be found to have the same range as *T. semitorquatus*.

26. TURTUR RISORIUS.

Columba risoria, Linn. S. N. i. 1766, p. 285.

Peristera risoria, Boie, Isis, 1828, p. 327.

Turtur risorius, Selby, Nat. Libr. 1835, p. 169, pl. 17 (very bad); Tristr. Ibis, 1864, p. 448, Palestine; Taylor, Ibis, 1867, p. 67; Tristr. Ibis, 1868, pp. 210, 333, Palestine; Drake, Ibis, 1869, pp. 151, 153, Morocco (as caged birds); Dresser, B. Eur. vii. 1877, p. 51, pl. 464. fig. 2 (good).

Turtur duraca, Hodgs. in Gray's Zool. Misc. 1844, p. 85.

Peristera ridens, C. L. Brehm, Vogelf. 1855, p. 257.

? *Peristera intercedens*, C. L. Brehm, tom. cit. p. 258, nec N. Afr.

Streptopelia intercedens, Reichb. Taub. 1855, p. 175.

Streptopelia risoria, Bp. Compt. Rend. xl. 1855, p. 18.

Turtur intercedens, Finsch & Hartl. Vög. Ostaf. 1870, p. 545.

Turtur neglecta, var. β , Schl. Mus. P.-B. iv. 1873, p. 123.

Turtur stoliczkæ, Hume, Stray Feathers, 1874, p. 519.

Head, neck, and chest pale pink, with no grey shade, and fading into white towards the chin; forehead nearly white; no black feathers in front of the eye; on the back of the neck a broad black collar, partially edged above and below with white; back, inner half of the wing-coverts, innermost secondaries, and two centre tail-feathers very pale brown,

passing into pearl-grey on the remainder of the coverts and secondaries ; the rump and centre tail-feathers partially washed with grey ; bastard wing and primary-coverts pearl-grey tipped with brown ; primaries dark brown, the quills generally with partial white edges ; remainder of the tail leaden grey, fading gradually into white towards the ends of the feathers, and the outer feathers have also a white edge ; the under surface of the tail is nearly black and white, the dark basal portion being scarcely defined above ; the pink of the chest shades into very pale grey on the flanks, abdomen, and vent ; the under tail-coverts being darker pearl-grey, with more or less obsolete whitish ends ; under wing-coverts white, tinted with pearl-grey, under surface of the quills brown, fading into ashy white on their inner webs towards the bases of the feathers ; iris red ; bill black ; legs dark pinkish red. Total length 11·9 inches, culmen 0·6, wing 6·8, tail 5·3, tarsus 0·9.

Hab. Palestine, Turkey, and Southern Asia.

My description is taken from a female specimen collected at Jericho by the Rev. Canon Tristram. This species does not occur anywhere on the African continent.

Peristera intercedens, C. L. Brehm, I refer to this species on account of the author specially mentioning the bill as small. In *T. decipiens* and *T. semitorquatus* the bill is decidedly large in proportion to that of the other allied Doves.

27. TURTUR ROSEOGRISEUS.

Columba risoria, Rüpp. (nec Linn.) Neue Wirb. Vög. 1835, p. 67, Massowah.

Turtur risorius, Rüpp. Syst. Uebers. 1845, p. 100, Arabia, Abyssinia, Egypt.

Peristera vinacea, C. L. Brehm (nec Gm), Vogelf. 1855, p. 258.

Streptopelia vinacea, Bp. Consp. Gen. Av. ii. 1857, p. 64, pt., White Nile.

Columba roseogrisea, Sundev. Krit. om Levaill. 1857, p. 54 (ex *C. risoria*, Rüpp.).

Turtur, sp., Heugl. J. f. O. 1863, p. 9.

Turtur risoroides, MS. in Mus. Lugd. fide Heugl. Orn. N.O.-Afr. 1871, p. 834.

Turtur albiventris, Finsch & Jesse (nec Gray), Trans. Z. S. vii. 1870, p. 289, Abyssinia; Blanf. Geol. & Zool. Abyssinia, 1870, p. 417; Finsch & Hartl. Vög. Ostaf. 1870, p. 546, pt., N.E. Afr.; Heugl. Orn. N.O.-Afr. 1871, p. 834; Shelley, B. Egypt, 1872, p. 217.

Turtur ridibundus, Württ. MS. in Coll. Mergenth., fide Heugl. Orn. N.O.-Afr. 1875, App. p. 169.

Very similar to *T. risorius*, but smaller, and with the following well-marked differences:—the pink of the chest fades into white on the lower breast, abdomen, and under tail-coverts. Total length 9·3 inches, culmen 0·65, wing 5·9, tail 4·1, tarsus 0·8.

Hab. N.E. Africa.

My description is taken from a specimen in my collection labelled "Koomale, Abyssinia (*Jesse*)."

Von Heuglin gives its range from Southern Nubia to the White Nile and the Red-Sea coast, so that its known range is, approximately, N.E. Africa from about 8° to 16° N. lat. Rüppell includes Egypt; but not having been met with there since his time, I should exclude it from the Egyptian list. It does not occur in W. Africa, but is there represented by *T. vinaceus*, which has frequently been identified with this species under the title of *T. albiventris*.

This is undoubtedly the *Columba risoria* of Rüppell, to which bird Sundevall, in 1857, applied the name of *Columba roseogrisea*, under the impression that Levaillant (Ois. d'Afr. vi. pl. 268) had figured a specimen of this species from N.E. Africa as "*La Tourterelle blonde à collier*." There appears to me no doubt that Levaillant intended to figure the pale form of *T. capicola*, the *T. damarensis*, Finsch & Hartl., discovered by him in Great Namaqua Land; but his artist failed to indicate the black stripe from the eye to the bill, possibly owing to the condition of the preserved skin, otherwise the grey shade on the crown indicates the pale form of *T. capicola*.

Our common tame Turtle Dove belongs to this species.

28. TURTUR VINACEUS.

Columba torquata senegalensis, Briss. Orn. i. 1760, p. 124 (descr. good), pl. 11. fig. 1.

Columba vinacea, Gm. S. N. i. 1788, p. 782, ex Briss.

Turtur semitorquatus, Swains. (nec Rüpp.), B. W. Afr. ii. 1837, p. 208; Sharpe, Ibis, 1870, p. 486, Fantee; Shelley & Buckley, Ibis, 1872, p. 290, Gold Coast.

Turtur albiventris, Gray, List Gall. 1844, p. 191, W. Afr.; Heugl. Orn. N.O.-Afr. 1871, p. 834, pt., W. Afr.; Reichenow, J. f. O. 1874, p. 388, Accra, 1877, p. 13, Loango coast.

Streptopelia semitorquata, Bp. Compt. Rend. 1855, p. 18.

Turtur vinaceus, Gray, List B. Brit. Mus. Columb. 1856, p. 43, pt.; Hartl. Orn. W.-Afr. 1857, p. 196, pt.; Schl. Mus. P.-B. iv. 1873, p. 123.

Streptopelia vinacea, Bp. Consp. Gen. Av. ii. 1857, p. 64, nec White Nile.

Head, neck, and breast rich vinous pink, with a slight grey shade on the occiput, paler and almost white on the chin and centre of the upper throat; forehead pale pink; a black band from the eyes to the lores; on the back of the neck a black collar, narrowly edged above with ashy white; back, inner half of the wing-coverts, innermost secondaries, and two centre tail-feathers rich pale brown, passing into pearl-grey on the remainder of the coverts; the secondaries and rump partially washed with grey; bastard wing and primary-coverts blackish brown; primaries dark brown, the quills generally with partial narrow white edges; remainder of the tail slaty black for rather more than the basal half, the end portion being ashy, rapidly fading into white, the outer feathers having also a rather narrow white edge; the under surface of the tail is black and white; the abdomen and vent pinkish white, fading into white on the greater under tail-coverts; the flanks shade into leaden grey; under wing-coverts leaden grey; under surface of the quills brown, with no white inner margins; iris orange-red; bill black; legs pinkish red. Total length 9·2 inches, culmen 0·55, wing 5·5, tail 4, tarsus 0·8.

Hab. W. Africa from Senegal to the Congo.

My description is taken from a male specimen collected by myself at Accra, on the Gold Coast. I have also examined the type of *T. albiventris*, Gray, in the British Museum, labelled "Tchadda R. (Baikie)."

It differs from its nearest ally, *T. capicola*, in the absence of grey on the head, except the very slight shade of that colour on the occiput, the forehead being pink, the richer vinous shade on the underparts, the under tail-coverts partially shaded with pink, and the smaller measurement of the wing. From *T. roseogriseus* it may at once be distinguished by the absence of white on the under surface of the wing, and in its having a black stripe from the eye to the lores.

29. *TURTUR CAPICOLA*.

La Tourterelle blonde (et "autre espèce"), Levaill. Ois. d'Afr. vi. 1808, p. 78, Gt. Namaqua, p. 79, Cape.

? *La Tourterelle blonde à collier*, Levaill. tom. cit. pl. 268.

Columba risoria, var. *e*, Terr. Caffr., Licht. Verz. Doubl. 1823, p. 67.

Turtur risorius, Selby (nec Linn.), Nat. Libr. v. 1835, p. 171; ? Chapman, Trav. S. Afr. ii. 1868, App. p. 410.

Turtur vinaceus, Strickl. & Sclat. (nec Gm.) Contr. Orn. 1852, p. 157, Damara.

Streptopelia semitorquata, Bp. (nec Rüpp.) Consp. Gen. Av. ii. 1857, p. 64, pt., S. Afr.

Columba capicola, Sundev. Krit. om Levaill. 1857, p. 54.

Columba vinacea, Grill, Zool. Anteckn. 1859, p. 51.

Turtur semitorquatus, Gurney, Ibis, 1864, p. 214, Natal; Sclat. tom. cit. pp. 279, 300, Anjuan; id. P. Z. S. 1864, p. 113, Kazeh and Gondokoro, p. 487, Madagascar, 1866, p. 23, Windvogelberg; Layard, B. S. Afr. 1867, p. 260; Schl. & Poll. Faune Madag. Ois. 1868, p. 113, Mayotte; Layard, Ibis, 1869, p. 374; Gurney, Ibis, 1873, p. 259; Schl. Mus. P.-B. iv. 1873, p. 124; Barratt, Ibis, 1876, p. 208, Transvaal and Free States; E. Newton, P. Z. S. 1877, p. 300, Anjuan; Hartl. Vög. Madag. 1877, p. 271 (nec descr.).

Streptopelia barbarà, Antin. Cat. descr. Ucc. 1864, p. 89,

Senaar, Kordofan, White Nile ; Heugl. J. f. O. 1867, p. 206 ; Salvad. Atti R. Ac. Torino, v. 1870, p. 745 ; Antin. & Salvad. Viagg. Bogos, 1873, p. 131, Keren, Anseba.

Turtur albiventris, Gray, List Brit. Mus. Columb. 1856, p. 44, pt., S. Afr. ; Pelz. Novara Reise, Vög. 1865, p. 108 ; Hartl. P. Z. S. 1867, p. 827, Zanzibar ; Sharpe, P. Z. S. 1873, p. 715, Mombas ; Shelley, Ibis, 1875, pp. 60, 83, Cape ; Holub & von Pelz. Beitr. Orn. Sudafr. 1882, p. 172.

Turtur capicola, Finsch & Hartl. Vög. Ostaf. 1870, p. 548, pt. ; Heugl. Orn. N.O.-Afr. 1871, p. 835 ; Fischer & Reichenow, J. f. O. 1877, p. 208, 1878, pp. 250, 292, Zanzibar, Mombas ; Fischer, J. f. O. 1879, p. 300 ; Shelley, P. Z. S. 1879, p. 678, Gt. Comoro ; Ayres, Ibis, 1880, p. 109, Transvaal ; Sharpe in Oates's Matabele Land, 1881, p. 322 ; Shelley, P. Z. S. 1881, p. 596, Pangani, Ugogo, Dar-es-Salaam ; id. Ibis, 1882, p. 359 ; Butler, Feilden, & Reid, Zoologist, 1883, p. 338, Natal.

Turtur damarensis, Finsch & Hartl. Vög. Ostaf. 1870, p. 550 ; Heugl. Orn. N.O.-Afr. 1871, p. 838, note ; Cab. J. f. O. 1878, p. 242, Zanzibar ; Bocage, Orn. Angola, 1881, p. 385.

Streptopelia damarensis, Gurney in Anderss. B. Dam. Ld. 1872, p. 233.

Crown leaden grey, fading gradually into ashy white on the forehead and shading into pale vinous slightly washed with grey on the neck, sides of the head, and chest : the front of the cheeks inclining to grey ; a black band from the eye to the lores ; on the back of the neck a broad black collar, partially edged above and below with grey ; back, inner half of the wing-coverts, innermost secondaries, and two centre tail-feathers clear brown, passing into leaden grey on the remainder of the wing-coverts ; the remainder of the secondaries and the rump strongly washed with grey ; bastard wing and primary-coverts brownish black ; primaries dark brown, the quills generally with partial narrow white edges ; remainder of the tail slaty black for rather more than the basal half, the end portion being slaty grey fading into white towards the outer feathers and ends of some of the others,

the outer feathers having also their entire outer webs white ; but this latter character is somewhat variable, the dark portion of the base of the tail often encroaching onto the white of the outer web, a character by which the N.E.-African bird may generally be distinguished from the Capetown bird ; the under surface of the tail is nearly black and white ; chin and centre of the upper throat white ; remainder of the throat and breast ashy tinted vinous, fading into buff on the abdomen and thighs and into white on the under tail-coverts ; the flanks are shaded with leaden grey ; under wing-coverts leaden grey ; under surface of the quills uniform brown ; iris brown ; bill black ; legs pinkish red. Total length 10·8 inches, culmen 0·65, wing 6, tail 4·5, tarsus 0·85.

Hab. S. Africa, E. Africa, and N.E. Africa ; the Comoro Islands and Madagascar.

I have above described a specimen collected by myself at Capetown.

There is a well-marked tropical race, rather constant in its character, first recognized by Levillant and afterwards named by Drs. Finsch and Hartlaub *T. damarensis*. It differs from the typical Capetown bird, but the arrangement of the colours and the proportions are identical. The grey of the head fades almost, or occasionally quite, into white on the front and sides of the forehead and on the front of the cheeks ; the grey shade on the cheeks is rarely present ; the partial grey edges to the black collar above and below often pass into white ; the vinous of the neck and breast is paler, generally almost clear pink with no grey shade, but greyer-breasted intermediate forms are not uncommon ; the brown of the upper parts is generally paler, but not always so. Total length 10·3 inches, culmen 0·55, wing 6·2, tail 4·5, tarsus 0·8.

The typical form of this race and the measurements are taken from a specimen in my own collection labelled " Macongo, Benguella (*Anchieta*) ;" and the intermediate forms I refer to are mostly in the British Museum, collected by Mr. T. Ayres in Natal and the Transvaal. Two specimens collected by Mr. E. Newton in Anjuan are somewhat inter-

mediate forms ; while a specimen collected for me in Great Comoro by Sir John Kirk is a very typical *T. damarensis*. The N.E.-African form has received the name of *barbarù*, from Antinori.

This species appears to be very common throughout S. and E. Africa, and certainly extends northward into Bogos Land, whence I have specimens collected by Esler. It also inhabits Great Comoro, Anjuan, Mayotte, and Madagascar, but is not, I believe, to be met with in W. Africa from Senegal to Angola, where it is replaced by the nearly allied *T. vinaceus*. For the determination of a considerable portion of the synonymy I have had to refer to the specimens mentioned.

30. TURTUR SENEGALENSIS.

Columba senegalensis, Linn. S. N. i. 1766, p. 283 ; Bolle, J. f. O. 1857, p. 332, Canaries.

Cambayan Turtle, Lath. Syn. ii. 1782, p. 652.

Columba cambayensis, Gm. S. N. i. 1788, p. 779 ; Savigny, Descr. de l'Egypte, 1810, pl. 5. fig. 9 ; Temm. & Knip, Fig. i. 1808-1838, p. 100, pl. 45 (good) ; Rüpp. Neue Wirb. Vög. 1835, p. 67, Nile, Abyssinia ; Chapman, Trav. S. Afr. ii. 1868, p. 411, Damara.

Columba ægyptiaca, Lath. Ind. Orn. ii. 1790, p. 607 ; Des Murs in Lefebvre's Voy. Abyss. 1845, p. 140.

La Tourterelle maillée, Lavaill. Ois. d'Afr. vi. 1808, p. 82, pl. 270 (fair).

Columba suratensis, Bonn. et Vieill. Tabl. Enc. Méth. i. 1823, p. 236.

Columba maculicollis, Wagl. Syst. Av., Columbæ, sp. 97 (1827).

Peristera cambayensis, Boie, Isis, 1828, p. 327.

Turtur senegalensis, Bp. Ucc. Eur. 1842, p. 52 ; Rüpp. Syst. Uebers. 1845, p. 100 ; Hartl. Orn. W.-Afr. 1857, p. 195 ; Taylor, Ibis, 1859, p. 50, Egypt ; Hartl. J. f. O. 1861, p. 266 ; Antin. Cat. descr. Ucc. 1864, p. 91, Egypt ; Adams, Ibis, 1864, p. 27, Egypt ; Allen, tom. cit. p. 239, Egypt ; Kirk, tom. cit. p. 330, Zambesi ; Tristr. P. Z. S.

1864, p. 448, Palestine; Layard, B. S. Afr. 1867, p. 261; Taylor, Ibis, 1867, p. 67; Gurney, Ibis, 1878, p. 47, Natal; Tristr. tom. cit. p. 210, Palestine; Finsch & Jesse, Trans. Z. S. vii. 1870, p. 290, Koomaylee; Blanf. Geol. and Zool. Abyss. p. 417; Finsch & Hartl. Vög. Ostaf. 1870, p. 551; Taczanowski, J. f. O. 1870, p. 51, Constantine; Heugl. Orn. N.O.-Afr. 1871-1875, p. 841, App. p. 170; Ayres, Ibis, 1871, p. 261, Transvaal; Gurney in Anderss. B. Dam. Ld. 1872, p. 232; Shelley, B. Egypt, 1872, p. 217; Sharpe, Ibis, 1872, p. 73, Fantee; Shelley & Buckley, tom. cit. p. 290, Gold Coast; Reichenow, J. f. O. 1872, p. 391, 1873, p. 213, Accra; Antin. & Salvad. Viagg. Bogos, 1873, p. 131, Karen; Reichenow, J. f. O. 1874, p. 388, Accra; Ussher, Ibis, 1874, p. 71, Gold Coast; Dresser, B. Eur. vii. 1876, p. 55, pl. 465 (moderate); Ayres, Ibis, 1877, p. 346, Transvaal; Cab. J. f. O. 1878, p. 243, Ukambani; Fischer & Reichenow, J. f. O. 1878, pp. 250, 292, Mombas; Bocage, Orn. Angola, 1881, p. 388; Sclat. & Hartl. P. Z. S. 1881, p. 173, Socotra; Shelley, Ibis, 1882, p. 359, Mashoona; Butler, Feilden, & Reid, Zoologist, 1883, p. 338, Natal.

Peristera senegalensis, *P. rufescens*, *P. ægyptiaca*, C. L. Brehm, Vogelf. 1855, p. 257.

Columba savignyi, Reichenb. Taub. 1855, p. 72.

Turtur ægyptiacus, Tristr. Ibis, 1859, p. 35, Palestine; Salvin, tom. cit. p. 318, E. Atlas; Tristr. Ibis, 1860, p. 69, N. Africa; Shelley, Ibis, 1871, p. 143, Egypt; Gurney, tom. cit. p. 295, Algeria.

Head and upper half of the neck deep vinous, slightly paler on the chin and centre of the upper throat; eyelids red; a broad collar round the front and sides of the neck formed of black feathers broadly tipped with fawn-colour; back of the neck, back, scapulars, and four centre tail-feathers brown, the feathers of the upper back and scapulars generally more or less edged with fawn-colour; sides of the lower back washed with grey; remainder of the tail slaty black for rather more than half its length, then grey fading into white towards the end, the white extending in amount towards the outer feathers, which have also broad white edges to their

outer webs; wings—the coverts leaden grey, with the inner half of them broadly edged with fawn-colour; bastard wing and primary-coverts black; secondaries brown washed with grey, excepting the innermost ones, which are washed with fawn-colour; quills blackish brown, with narrow pale edges, becoming white towards the outermost feathers; breast rich vinous, fading into white on the abdomen; under tail-coverts white; sides of the body leaden grey; under wing-coverts rather deeper grey; under surface of the quills uniform brown; iris orange-red; bill dusky black, with a slight vinous shade; legs pinkish red. Total length 11 inches, culmen 0·6, wing 5·2, tail 4·9, tarsus 0·8.

Hab. The whole of the African continent, Socotra, S. Asia, S.E. Europe, and the Canary Islands.

I have here described a male collected by myself in Egypt.

31. *TURTUR PICTURATUS*.

Columba picturata, Temm. Hist. Nat. Fig. et Gall. 1813, pp. 315, 481; id. Pl. Col. 1826, 242 (moderate).

Columba dufresnii, Leach in Shaw's Gen. Zool. xi. 1819, p. 77, pl., Mauritius.

Peristera picturata, Boie, Isis, 1828, p. 327.

Turtur picturatus, Reichb. Taub. 1855, p. 70, pl. 224. fig. 1260; Sclat. P. Z. S. 1863, p. 164, Madagascar; Roche & E. Newton, Ibis, 1863, p. 167; E. Newton, tom. cit. p. 454; Schl. P. Z. S. 1866, p. 424, pt., Réunion nec Mayotte; E. Newton, Ibis, 1867, pp. 346, 359, Seychelles; Grand. Rev. et Mag. de Zool. 1867, p. 418; A. Newton, Ibis, 1868, p. 477; Schl. & Poll. Faune Madag. Ois. 1868, p. 113, pt.; Bartlett, P. Z. S. 1875, p. 67; Hartl. Vög. Madag. 1877, p. 268.

Turtur prevostianus, Bp. Consp. Gen. Av. ii. 1857, p. 62, Marianne Is.

Head and upper half of the neck grey, paler on the chin and centre of the upper throat, and gradually shading into deep ashy vinous on the remainder of the neck; some of the feathers on the sides of the neck have black centres slightly exposed, indicating a very partial collar; the vinous of the

neck shades into chestnut on the upper back, portion of the scapulars, and the smaller wing-coverts; middle of the back, remainder of the wings, the centre tail-feathers, and the ends of some of the tail-coverts brown; the primaries mostly with narrow partial whitish edges; lower back and remainder of the upper tail-coverts slaty grey; remainder of the tail slaty black, with grey ends nearly one inch in depth, passing into white on the inner webs of the other feathers, which have also narrow white margins to their outer webs; under surface of the tail black and white; crop deep ashy vinous, fading gradually into vinous pink towards the lower breast and then into white on the abdomen and under tail-coverts; sides of the body occasionally slightly tinted with grey; under wing-coverts brown, shading into chestnut towards the edges of the wing; under surface of the quills brown, with almost obsolete pale inner edges to the feathers; "iris brown; bill brown, with a whitish tip; legs violet-red" (*Schl. & Poll.*). Total length 11·5 inches, culmen 0·75, wing 6·6, tail 4·6, tarsus 0·9.

Hab. Madagascar, Réunion, Mauritius, and the Seychelles.

This Dove is probably a native of Madagascar only, and found wild on the other islands as an introduced bird. Schlegel and Pollen give Mayotte as a locality, but specially remark that the specimens from that island had no grey on the head, clearly proving that they should be referred to the nearly allied *T. comorensis*.

32. TURTUR ALDABRANUS.

Turtur aldabranus, Scat. P. Z. S. 1871, pp. 623, 692, pl. 72 (very good), Aldabra Is.; Hartl. Vög. Madag. 1877, p. 270.

"Supra brunneus unicolor, capite toto cum collo undique vinaceo perfusus; colli postici plumis nigris vinaceo terminatis, tanquam squamatis; subtus cineraceus, usque ad medium pectus vinaceo perfusus, ventre medio crissoque albis; alarum remigibus cineraceo-brunneis, unicoloribus; caudæ rectricibus duabus mediis omnino et proximis in pogonio exteriori brunneis dorso concoloribus, ceteris omnibus nigris limbo unciali lactescenti-albo

terminatis; subalaribus cineraceis; rostro plumbeo, apice flavicante; pedibus carneis: long. tota 10·5, alæ 5·75, caudæ 3·9, tarsi 1·1 poll. Angl. et dec.” (*Sclater.*)

Hab. Aldabra Island.

I have here quoted Mr. Selater’s original description, as I have not had the opportunity of examining the type. It is most nearly allied to *T. comorensis*, from which it chiefly differs in its smaller size, its wing being nearly one inch shorter; also, according to Mr. E. Newton, it has a more vinous colouring on the back, rump, and tail. From *T. picturatus* it differs in the absence of grey on the head, and from *T. rostratus* in the absence of grey on the rump and two centre tail-feathers, as well as in its much smaller bill.

33. *TURTUR COMORENSIS*.

Turtur picturatus, Schl. & Poll. Faun. Madag. Ois. 1868, p. 113, pt., Mayotte.

Turtur comorensis, E. Newton, P. Z. S. 1877, pp. 300, 302, Anjuan; Shelley, P. Z. S. 1879, p. 678.

Head, neck, and front portion of the upper back vinous purple, shading into chestnut on the smaller wing-coverts and into brown on the remainder of the back, wings, and two centre tail-feathers; on the sides of the neck a very partial collar, formed by the black basal portion of these feathers being partially exposed; the primaries are dark brown, with very narrow pale edges; the sides of the middle back are shaded with slaty grey; the feathers of the rump and upper tail-coverts are slightly edged with rufous; remainder of the tail brownish black, with a broad pale end and a very narrow pale edge; the pale end is grey, washed with brown towards the edges of the outer webs, and fades into white on the inner webs towards the outer feathers; under surface of the tail black and white; the vinous purple of the neck gradually fades into pale vinous towards the centre of the breast, into white on the abdomen and under tail-coverts, and into slaty grey on the sides of the body; under wing-coverts brownish slate-colour; under surface of the quills dark brown; iris red; bill slate-colour, with the end yellow; legs pinkish red.

Total length 11 inches, culmen 0·75, wing 6·65, tail 4·5, tarsus 1·1.

Hab. The Comoro Islands.

My description is taken from a specimen collected for me by Sir John Kirk on the island of Anjuan. This is the species referred to as being very common in Mayotte by Schlegel and Pollen under the name of *T. picturatus*.

I think I am right in considering this bird specifically distinct from the very closely allied *T. aldabranus*, from which it differs in its larger size and in the less vinous colouring of the back, rump, and tail; for our present knowledge does not warrant us in regarding any of these characters as variable.

34. TURTUR ROSTRATUS.

Columba picturata, var. *Seychelles*, Temm. Pl. Col. 1826, text to pl. 242.

Turtur rostratus, Bp. Compt. Rend. xl. 1855, p. 16; id. Consp. Gen. Av. ii. 1857, p. 62; E. Newton, P.Z. S. 1867, p. 344; id. Ibis, 1867, pp. 337, 354, 359; A. Newton, Ibis, 1868, p. 477; Schl. Mus. P.-B. iv. Columb. 1873, p. 130; Hartl. Vög. Madag. 1877, p. 269.

Crown, upper back, scapulars, and the lesser wing-coverts deep vinous purple; remainder of the head, neck, and breast somewhat paler; a partial collar on the sides of the neck formed by the feathers having black bases and broad ashy vinous edges; remainder of the wings dark brown, many of the feathers partially washed on their edges with deep vinous purple; the primaries with narrow pale edges; remainder of the back and the two centre tail-feathers slaty grey; remainder of the tail slaty black for about the basal two thirds; end third of the tail and a broad outer margin white, shading into slaty grey towards the four centre feathers; the vinous of the breast shades into slaty grey on the sides of the body and into ashy white on the abdomen; under tail-coverts white; under wing-coverts slaty grey; under surface of the quills dark brown; bill slaty black, with the end third yellow;

legs reddish brown. Total length 10 inches, culmen 0·85, wing 5·9, tail 3·9, tarsus 1·05.

Hab. Seychelles.

My description, as well as the colour of the bill and legs, is taken from a male specimen in my own collection from the island of Marianne.

VII. CHALCOPELIA.

Type.

Chalcopelia, Bp. Compt. Rend. xl. 1855, p. 19 . . . *C. afra*.

Chalcopeleia, Reichb. Taub. 1855, p. 78 (correction) *C. afra*.

I shall include three species in this genus, *C. puella*, *C. brehmeri*, and *C. afra*.

Although I keep *C. brehmeri* as a distinct species, it appears to me probable that it will prove only to be a variety constituting a more or less constant race.

With *C. afra* I unite *C. chalcospilos*, Wagl., as I have no doubt that they are mere varieties of one species.

35. CHALCOPELIA PUELLA.

Peristera puella, Schl. Bijdrag tot de Dierk. 1848, p. 17, pl. (good); Hartl. J. f. O. 1854, p. 208; 1855, p. 261; Cass. Pr. Philad. Acad. 1856, p. 321, Cape Lopez; Hartl. Orn. W.-Afr. 1857, pp. 198, 275; Cass. Pr. Philad. Acad. 1859, p. 143, Camma, Ogobai, and Muni rivers; Sharpe, Ibis, 1869, p. 387, Fantee; Ussher, Ibis, 1874, p. 71, Gold Coast.

Chalcopelia puella, Bp. Compt. Rend. 1855, p. 19.

Chalcopeleia puella, Reichb. Taub. 1855, p. 78, pl. 245. fig. 2593 (bad).

Head, upper half of the neck, and back of the lower neck cobalt-blue, fading into bluish white towards the forehead, chin, and centre of the upper throat; a narrow black band from the eye to the lores; remainder of the plumage bright rufous, rather darker above, where it inclines to chestnut; lower throat and sides of the lower neck shaded with vinous; quills inclining to dark brown; a few of the inner greater wing-coverts and largest scapulars have boldly marked metallic golden-green blotches on their outer webs; the six centre

tail-feathers are uniform chestnut, the next pair have the basal portion of their inner webs slaty grey with a broad black subterminal bar very partially indicated; the outer four tail-feathers are slaty grey, with a broad subterminal black bar and chestnut ends; under tail-coverts chestnut, slightly darker than the breast; under surface of the tail slaty grey, with a silvery gloss for the greater part of the six outer feathers, and the remainder chestnut; under surface of the wings rufous like the breast, shading into brown towards the ends of the quills; iris brown; bill dusky slate-colour, inclining to yellow towards the tip; legs brown. Total length 10 inches, culmen 0.65, wing 5.05, tail 4.9, tarsus 0.95.

Hab. W. Africa, from the Gold Coast to the Gaboon.

My description is taken from a Gold-Coast specimen in my own collection. In an immature bird, some of the scapulars, wing-coverts, and secondaries are barred with black.

36. CHALCOPELIA BREHMERI.

Chalcopelia brehmeri, Hartl. J. f. O. 1865, p. 97; id. Ibis, 1865, p. 236, Gaboon; Finsch, Ibis, 1875, p. 467; Bocage, Orn. Angola, 1881, p. 391.

Peristera brehmeri, Gray, Hand-l. B. ii. 1870, p. 244; Sharpe & Bouvier, Bull. S. Zool. France, 1876, p. 52, Landano and Chinchonxo; Reichenow, J. f. O. 1877, p. 13, Loango Coast.

Very similar to *C. puella*, from which it only differs in the metallic spots on the wings being of a metallic coppery red, with occasionally a slight green reflection. Total length 9.1 inches, culmen 0.65, wing 5.2, tail 4.5, tarsus 1.

Hab. W. Africa, from the Gaboon to the Loango Coast, north of the Congo.

My description is taken from two specimens in the British Museum collected by Duchailu.

For want of proof to the contrary, I here keep *C. puella* and *C. brehmeri* distinct, although, in my opinion, they are only races or varieties. This it remains for future facts to show, my reason for supposing that they are not distinct

species resting on the small importance of the colouring of the wing-spots in the allied forms *C. afra* and *T. tympanistra*.

37. CHALCOPELIA AFRA.

Columba afra, Linn. S. N. i. 1766, p. 284; Temm. & Knip, Fig. i. 1808–1835, p. 83, pls. 38, 39; Chapman, Trav. S. Afr. ii. 1868, App. p. 411, Damara; Godman, Ibis, 1872, p. 218, Teneriffe?

La Tourterelle émeraundine, Levaill. Ois. d'Afr. vi. 1808, p. 84, pl. 271 (good).

Columba chalcospilos, Wagl. Syst. Av. Columb. 1827, sp. 83 et var. *a*.

Columba senegalensis, Rüpp. Neue Wirb. Vög. 1835–1840, p. 67.

Turtur chalcospilos, Swains. B. W. Afr. ii. 1837, p. 210; Allen & Thomps. Exp. Niger, ii. 1848, p. 41.

Peristera chalcospilos, Rüpp. Syst. Uebers. 1845, p. 98, pl. 38 (good), Sennaar, Kordofan, Abyssinia; Strickl. & Sclat. Contr. Orn. 1852, p. 126, Damara; Cass. Pr. Philad. Acad. 1859, p. 321, Cape Lopez; Hartl. J. f. O. 1861, p. 266, Camma r., Grand Bassam, Bissao, Casamanse; Sclat. P. Z. S. 1862, p. 12, Uzaramo; Cab. v. d. Decken's Reisen, iii. p. 43, Mombas; Shelley, Ibis, 1875, p. 84, Durban.

Chalcopelia afra, Bp. Compt. Rend. xl. p. 19 (1855); Sclat. P. Z. S. 1864, p. 113, Usazamo and Duthumi; Antin. Cat. descr. Ucc. 1864, p. 88, White Nile; Finsch & Jesse, Trans. Z. S. vii. 1870, p. 290, Abyssinia; Finsch & Hartl. Vög. Ostaf. 1870, p. 554; Heugl. Orn. N.O.-Afr. 1871–1875, p. 845, App. p. 171; Gurney in Anderss. B. Dam. Ld. 1872, p. 236; Reichenow, J. f. O. 1872, p. 391, Accra; Sharpe, P. Z. S. 1873, p. 716, Mombas; Reichenow, J. f. O. 1873, p. 213, 1874, p. 387, Gold Coast; Fischer, J. f. O. 1877, pp. 173, 176, 207, E. Afr.; Fischer & Reichenow, J. f. O. 1878, pp. 250, 292, Zanzibar, 1879, pp. 300, 303, 339, E. Afr.; Fischer, J. f. O. 1880, p. 192, E. Afr.; Sharpe in Oates's Matabele Land, App. B, 1881, p. 322; Hartl. Abhandl. nat. Vereins Bremen, vii. 1881, p. 117, Lado; Bocage, Orn. Angola, 1881, p. 389; Shelley, P. Z. S. 1881,

p. 596, Pangani; Holub & Pelz. Beitr. Orn. Sudafr. 1882, p. 176.

Chalcopelia chalcospilos, Bp. Compt. Rend. xl. 1855, p. 19; Kirk, Ibis, 1864, p. 329, Zambesi; Cab. J. f. O. 1878, p. 243, E. Afr.; Shelley, P. Z. S. 1881, p. 596, Pangani and Dar-es-Salaam.

Peristera afra, Strickl. & Sclat. Contr. Orn. 1852, p. 157, Damara; Hartl. Orn. W.-Afr. pp. 197, 275; Cass. Pr. Philad. Acad. 1859, p. 144, Camma, Ogobai, Muni, and Moonda r.; Hartl. J. f. O. 1861, p. 266; id. P. Z. S. 1867, p. 827, Zanzibar; Layard, B. S. Afr. 1867, p. 262; Gurney, Ibis, 1868, pp. 48, 164; Blauf. Geol. and Zool. Abyss. 1870, p. 417; Sharpe, P. Z. S. 1870, p. 150, Angola; Shelley & Buckley, Ibis, 1872, p. 290, Gold Coast; Sharpe & Bouvier, Bull. Soc. Zool. France, 1876, p. 52, Chinchonxo; Reichenow, J. f. O. 1877, p. 13, Loango Coast.

Chalcopelia afra. Crown leaden grey, fading into white on the forehead and inclining to slaty brown on the centre of the occiput and nape; back of the neck, upper back, wing-coverts, scapulars, and inner secondaries palish brown; bastard wing black, partially inclining to chestnut towards the bases of the feathers, primary-coverts and quills, with the exception of a few of the innermost secondaries, chestnut, with broad ends and partial margins of brown, becoming almost black on the primaries and primary-coverts, and increasing in extent towards the first primary, which has nearly the entire outer web black; a few of the inner greater wing-coverts and largest scapulars have boldly marked steel-blue patches on their outer webs, these blotches are partially margined with metallic green; remainder of the back buffish brown, crossed above by two distinct broad black bars, the end feathers of the rump and the greater tail-coverts are generally broadly tipped with black forming two imperfect bars; the six centre tail-feathers brown with broad blackish ends, these black ends become subterminal on the remaining feathers, which shade into slaty grey, and the pale portion of the outer web of the last feathers fades into ashy white; cheeks, sides of the neck, throat, and breast vinous, fading almost into

white towards the chin and centre of the upper throat; the cheeks often shaded with grey; the vinous breast fades into white near the vent and a few of the first under tail-coverts are white, usually washed more or less with grey or brown; remainder of the under tail-coverts and the under surface of the tail black, with pale ends to a few of the outer tail-feathers, and often with brownish ends to some of the greater coverts; axillaries and under surface of the wings rufous, with the ends and partial outer margins to the quills dark brown; iris brown; bill dusky red with the end yellow; legs brownish red. Total length 8·5 inches, culmen 0·6, wing 4·3, tail 3·5, tarsus 0·7.

The preceding description is taken from a specimen collected by myself on the Gold Coast in March, and the following from a female also collected by myself in March at Pinetown. Var. *Columba chalcospilos*, Wagl., differs from the typical form as follows:—metallic spots on the wing golden green, with scarcely any trace of blue; the black on the primary-coverts and primaries is rather more extended; the secondaries are rather darker, their central portions inclining to black and considerably less washed with rufous; the colouring of the upper parts generally is of a slightly more ashy shade; bill uniform dark brown. Total length in the flesh 7·9 inches, culmen 0·55, wing 4·3, tail 3·5, tarsus 0·7.

Hab. The whole of Africa south of about 17° N. lat.

This Dove is not known to me from any of the islands with the exception of the small Ilha das Rolhas in the Gulf of Guinea. As to its occurrence on Teneriffe as a regular migrant I think it impossible; certainly it has never been procured there; and although very different in appearance, I have little doubt that *Turtur senegalensis* or *T. turtur* were the species confounded with it at Teneriffe.

Although it is difficult positively to prove, I have no doubt in my own mind that the forms above described, those with the blue and those with the green spots on the wings, are only varieties of one species. They have exactly the same range and have both been invariably collected in the same localities, and they are neither sexual nor seasonal differences.

A somewhat analogous case is presented in the dark and pale varieties of *Nisaetus pennatus*.

VIII. TYMPANISTRIA.

Tympanistria, Reichb. Taub. 1855, p. 78 Type.
(1853, fide Gray) *T. tympanistria*.

This genus contains a single species, confined to Africa, Madagascar, and the Comoro Islands.

38. TYMPANISTRIA TYMPANISTRIA.

La Tourterelle à ventre blanc, Temm. Cat. Syst. p. 253.

La Tourterelle tambourette, Levaill. Ois. d'Afr. vi. 1808, p. 86, pl. 272 (good).

Columba tympanistria, Temm. & Knip, Fig. i. p. 80, p. 36 (1808-1811); Temm. Hist. Fig. et Gall. 1813, pp. 287, 475; Bianc. Spec. Zool. Mosamb. fasc. xvi. 1865, p. 401; Schl. P. Z. S. 1866, p. 425, Mayotte.

Peristera tympanistria, Boie, Isis, 1828, p. 327; Selby, Nat. Libr. v. 1835, p. 205, pl. 23 (bad); Hartl. J. f. O. 1855, p. 361, Gold Coast; id. Orn. W.-Afr. 1857, pp. 197, 275; Cass. Pr. Philad. Acad. 1859, p. 143, Camma and Muni rivers; Gurney, Ibis, 1860, p. 214, Natal; Hartl. J. f. O. 1861, p. 266, Camma r. and Casamanse; Gurney, Ibis, 1864, p. 359, Natal; Layard, B. S. Afr. 1867, p. 262; Schl. & Poll. Faune Madag. Ois. 1868, p. 114; Sharpe, Ibis, 1869, p. 387, Fantee; Finsch & Hartl. Vög. Ostaf. 1870, p. 558; Reichenow, J. f. O. 1874, p. 387, Gold Coast; Shelley, Ibis, 1875, p. 84, Durban; Sharpe & Bouvier, Bull. Soc. Zool. France, 1876, p. 52, Landano; Hartl. Vög. Madag. 1877, p. 271; Reichenow, J. f. O. 1877, p. 13, Loango Coast; Fischer, tom. cit. pp. 173, 176, E. Afr.; Cab. J. f. O. 1878, p. 243, Mombas; Fischer & Reichenow, tom. cit. pp. 250, 292, 293, E. Afr.; Bocage, Orn. Angola, 1881, p. 393; Shelley, P. Z. S. 1881, p. 597, Pangani.

Peristera tympanistria, Fraser, P. Z. S. 1843, p. 53, Fernando Po.

Tympanistria bicolor, Reichb. Taub. 1855, p. 78, pl. 258. fig. 1435; Bp. Compt. Rend. xl. 1855, p. 19.

Tympanistria fraseri, Bp. Consp. Gen. Av. ii. 1857, p. 67.

Peristera fraseri, Gray, Hand-l. B. ii. p. 244 (1870).

Chalcopelia tympanistria, Shelley, P. Z. S. 1879, p. 678, Great Comoro; Fischer, J. f. O. 1879, p. 300.

Tympanistria tympanistria, Butler, Feilden, & Reid, Zoologist, 1883, p. 338, Natal.

Male. Forehead, front half of the crown, a broad eyebrow, chin, throat, and breast white; remainder of the upper parts brown, slightly darker on the crown and slightly washed with grey at its junction with the white on the crown and sides of the neck; ear-coverts and a narrow band from the eyes to the lores brownish black; bastard wing dark brown, often partially washed with chestnut; primary-coverts and primaries chestnut, with broad ends and partial margins of dark brown; the half of the secondaries next to the primaries rufous, shading into brown towards their edges; remaining half of the secondaries uniform brown, like the wing-coverts; a few of the inner greater wing-coverts and the largest scapulars have boldly marked black patches on their outer webs, these blotches have generally a metallic gloss of violet, steel-blue, or green; just below the centre of the back are two broad bands, more or less distinct, of blackish brown, and between them a pale band often inclining to brownish buff with an ashy shade; remainder of the rump and upper tail-coverts uniform brown like the mantle; the six centre tail-feathers uniform brown with a reddish tinge, the outer six feathers shade into grey with a broad subterminal black band; the white of the breast gradually passes into brown on the tail-coverts and on the outer thigh-coverts; under surface of the tail slaty black, with narrow greyish ends to the outer six feathers; axillaries and under surface of the wings rufous, with the ends and partial outer margins to the quills dark brown; the first primary is much sulcated and for 0·8 inch of its end it is not broader than the outer web of the second quill; iris brown; bill purple slate-colour; legs red. Total length 8·4 inches, culmen 0·6, wing 4·65, tail 3·9, tarsus 0·75.

Female. Differs slightly in the checks, lower throat, and crop being tinted with dusky grey.

Hab. The whole of S. Africa, northward on the W. coast to Casamanse, and on the E. coast to Mombas, also Madagascar, the Comoro Islands and Fernando Po.

IX. CENA.

Cena, Selby, MS., fide Swains Class. B. ii. Type.

1837, p. 349. *C. capensis*.

This genus contains a single species, which ranges over the whole of South and Tropical Africa, Madagascar, and the Arabian shores of the Red Sea to as far north as Jeddah.

39. CENA CAPENSIS.

Columba capensis, Linn. S. N. i. 1766, p. 286; Temm. & Knip, Pig. i. 1808–1838, p. 117, pls. 53 ♀, 54 ♂.

La Tourterelle à cravatte noire, Levaill. Ois. d'Afr. vi. 1808, p. 88, pls. 273 ♂, 274 ♀, 275 juv.

Columba atrogularis, Wagler, Syst. Av. 1827, sp. 108.

Peristera capensis, Boie, Isis, 1828, p. 327.

Ectopistes capensis, Selby, Nat. Libr. v. 1835, p. 189, pl. 20.

Cena capensis, Swains. B. W. Afr. ii. 1837, p. 214, Senegal; Selater, Contr. Orn. 1852, p. 126, Mokullo on Red Sea; Hartl. Orn. W.-Afr. 1857, p. 198; Hartl. J. f. O. 1860, p. 180, Pembe Is., Zanzibar; Roche & E. Newton, Ibis, 1863, p. 168, Madagascar; Antin. Cat. descr. Ucc. 1864, p. 91, N.E. Afr.; Gurney, P. Z. S. 1864, p. 3, Damara; id. Ibis, 1865, p. 270, Natal; Schl. & Poll. Faun. Madag. Ois. 1868, p. 114; Sperling, Ibis, 1868, p. 291, Mozambique; Finsch & Jesse, Trans. Z. S. vii. 1870, p. 29; Blanf. Geol. and Zool. Abyss. 1870, p. 418; Heugl. Orn. N.O.-Afr. 1871–1875, p. 248, App. p. 171; Finsch & Hartl. Vög. Ostaf. 1870, p. 557; Ayres, Ibis, 1871, p. 261, Transvaal; Gurney in Anderss. B. Dam. Ld. 1872, p. 235; Sharpe, P. Z. S. 1873, p. 716, Mombas; Antin. & Salvad. Viagg. Bogos, 1873, p. 132; Buckley, Ibis, 1874, p. 385, Transvaal; Shelley, Ibis, 1875, pp. 62, 83, Wellington; Sharpe &

Bouvier, Bull. Soc. Zool. France, 1876, p. 52, Landano; Hartl. Vög. Madag. 1877, p. 272; Reichenow, J. f. O. 1877, p. 13, Loango Coast; Cab. J. f. O. 1878, p. 243, E. Afr.; Bocage, Orn. Angola, 1881, p. 292; Sharpe in Oates's Matabele Land, App. B, 1881, p. 322; Hartl. Abhandl. nat. Vereins Bremen, vii. 1881, p. 117, Lado; Shelley, P. Z. S. 1881, p. 596, Pangani, 1882, p. 359, S.E. Afr.; Holub & Pelz. Beitr. Orn. Südaf. 1882, p. 171; Butler, Feilden, & Reid, Zoologist, 1883, p. 338, Natal.

Male. Front half of the head and the entire throat black; remainder of the head grey; back of the neck, back, scapulars, inner half of the wing-coverts, innermost secondaries, and tail-coverts pale brown, shading into pearl-grey on the sides of the neck and on the remainder of the wing-coverts; bastard wing slaty grey, passing into black towards the borders of the feathers; the greater series of wing-coverts also pass into black towards their borders, most distinctly so towards the outer feathers; primary-coverts and primaries chestnut, with broad black end and partial outer margins; the outer half of the secondaries with chestnut centres, broadly surrounded with ashy brown, passing gradually on the remainder of the secondaries into pale brown, and with narrow partial whitish edges most distinct towards the ends of the outer secondaries; inner webs of the inner secondaries shading into black on their edges; a few of the inner greater wing-coverts and largest scapulars have boldly marked steel-blue patches on their outer webs, these blotches are more or less shaded with metallic violet; just below the centre of the back are two broad bands, more or less distinct, of black, and between them a pale band of brownish buff often fading into white on the sides; upper tail-coverts broadly edged with black; tail slaty grey, shading into black towards the ends of the inner six feathers, the outer six with a broad subterminal black band, the end and nearly the entire outer web of the last feather white; breast white, shaded with grey towards the black of the throat and sides of the body; under tail-coverts black, with a few of the smaller ones white and some of the intermediate ones with white outer webs; under

surface of the tail black, with pale ends to the six outer feathers and with white on the outer web of the last one; axillaries and the inner half of the under wing-coverts black, outer half of the under wing-coverts and the under surface of the quills rufous, the latter with dark brown ends; "iris brown; bill, with the basal half lake-red, the end half a fine dark gamboge; tarsi and feet dark rose-red" (*T. Ayres*). Total length 9·2 inches, culmen 0·55, wing 4·2, tail 5·3, tarsus 0·5.

Female. Differs from the male in having no black on the head and throat; forehead, cheeks, chin, and centre of the throat white, slightly greyer towards the crown, which is brown like the back; ear-coverts, sides and front of the neck, and crop pale ashy brown, slightly greyer on the back of the cheeks and sides of the upper throat; remainder of the plumage as in the male. Total length 9·2 inches, culmen 0·5, wing 4·15, tail 6, tarsus 0·5.

Hab. Madagascar and the whole of South and Tropical Africa, extending northward on the W. coast to Senegal, and rather further so on the east side of the continent, where it crosses the Red Sea into Arabia, whence I have a specimen from Jeddah, the most northern limit yet known for that species.

My descriptions have been taken from a pair collected for me by Mr. Gorge in Natal.

X. GEOPELIA.

Type.

Geopelia, Swains. Class. B. ii. 1837, p. 348 . . . *G. striata*.

This genus is only represented within my limits by *G. striata*, which has been introduced into many of the islands surrounding the African continent south of the equator.

40. GEOPELIA STRIATA.

Columba striata, Linn. S. N. i. 1766, p. 282.

Columba malaccensis, Temm. & Knip, i. 1808-1838, p. 104, pl. 47.

Geopelia striata, E. Newton, Ibis, 1861, p. 182, Round Is., p. 274, Mauritius; Schl. P. Z. S. 1866, p. 424, Réunion and

Madagascar; E. Newton, *Ibis*, 1867, p. 342, Seychelles; Hartl. Vög. Madag. 1877, p. 404.

Turtur malaccensis, Schl. & Poll. Faun. Madag. 1868, p. 155.

Forehead, front half of the crown, sides of the head, and upper half of the throat very pale grey; remainder of the crown pale brown of a slightly vinous shade; back of the neck, back, upper tail-coverts, upper wing-coverts, and innermost secondaries pale brown, each feather tipped with black; bastard wing, primary-coverts, and the remainder of the quills darker brown, the primaries with the basal portion of their inner webs rufous; tail of 12 feathers, two centre feathers slaty brown, the remainder black, the six outer ones with broad white ends, which extend obliquely down portions of their outer webs; centre of the lower throat and chest vinous pink, fading into pinkish white down the centre of the lower breast and on the under tail-coverts; feathers of the sides of the neck and sides of the body with narrow alternate bars of black and white, the white becoming shaded with vinous on the flanks; under surface of the wing dark brown; the coverts somewhat indistinctly barred with rufous and brownish black, a large portion of the inner webs of the quills rufous; the first primary is much sulcated, for the end 0·6 is not broader than the outer web of the second quill; iris brown; bill dusky slate-colour; legs red. Total length 9·2 inches, culmen 0·5, wing 4, tail 4·4, tarsus 0·7.

Hab. China, Australia, New Guinea, and the Malay archipelago, and, as an introduced bird, Seychelles, Madagascar, Mauritius, Round Island, Réunion, and St. Helena.

My description is taken from a specimen collected by myself at St. Helena.

XXIX.—*On the Variations in Plumage of Saxicola monticola, as observed in Natal.* By Majors E. A. BUTLER and H. W. FEILDEN and Capt. S. G. REID.

DURING our stay at Newcastle, in the upper district of Natal,